The Journal of the American Osteopathic Association

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A report to the membership (continued)

Specialty certification number

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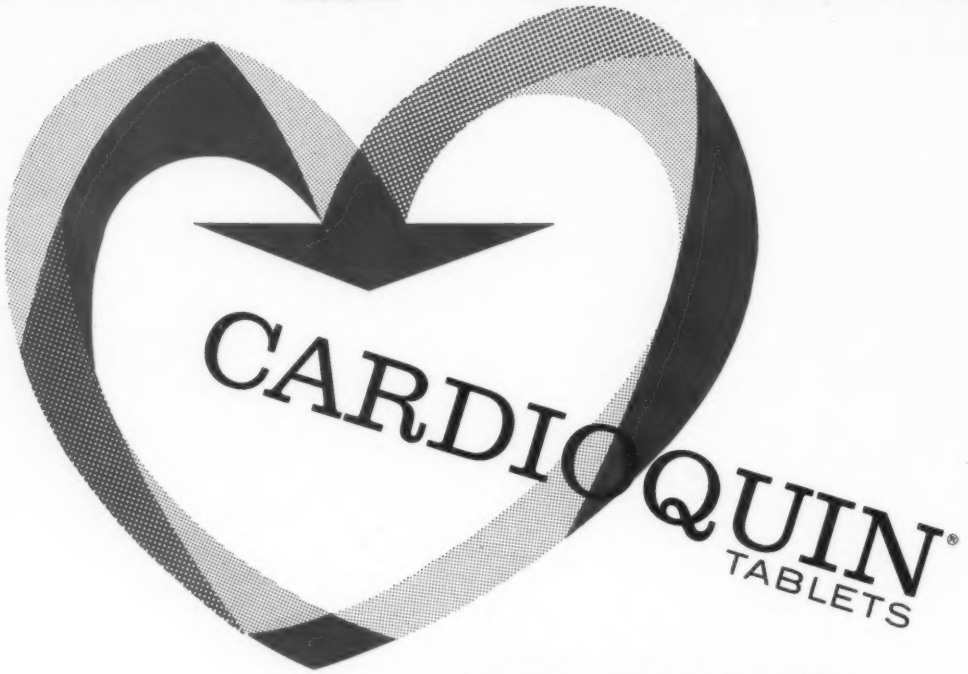
IMPORTANT NEW CARDIOTHERAPEUTIC



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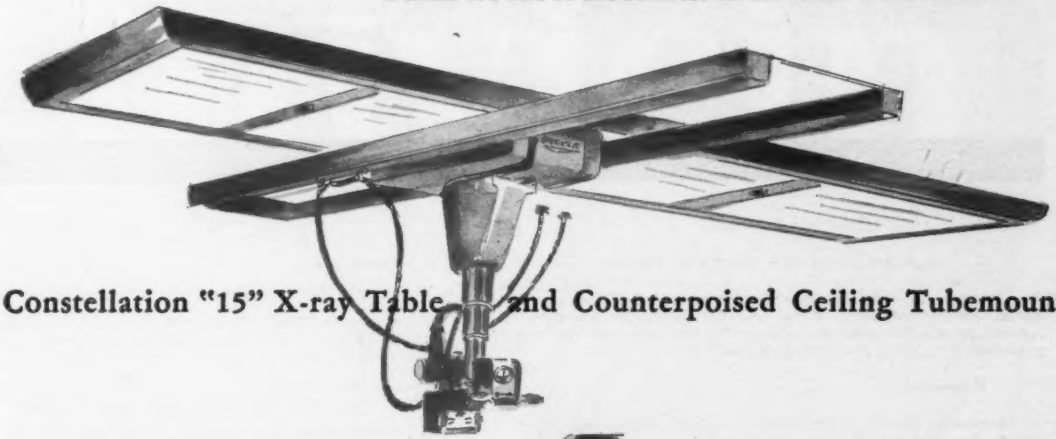

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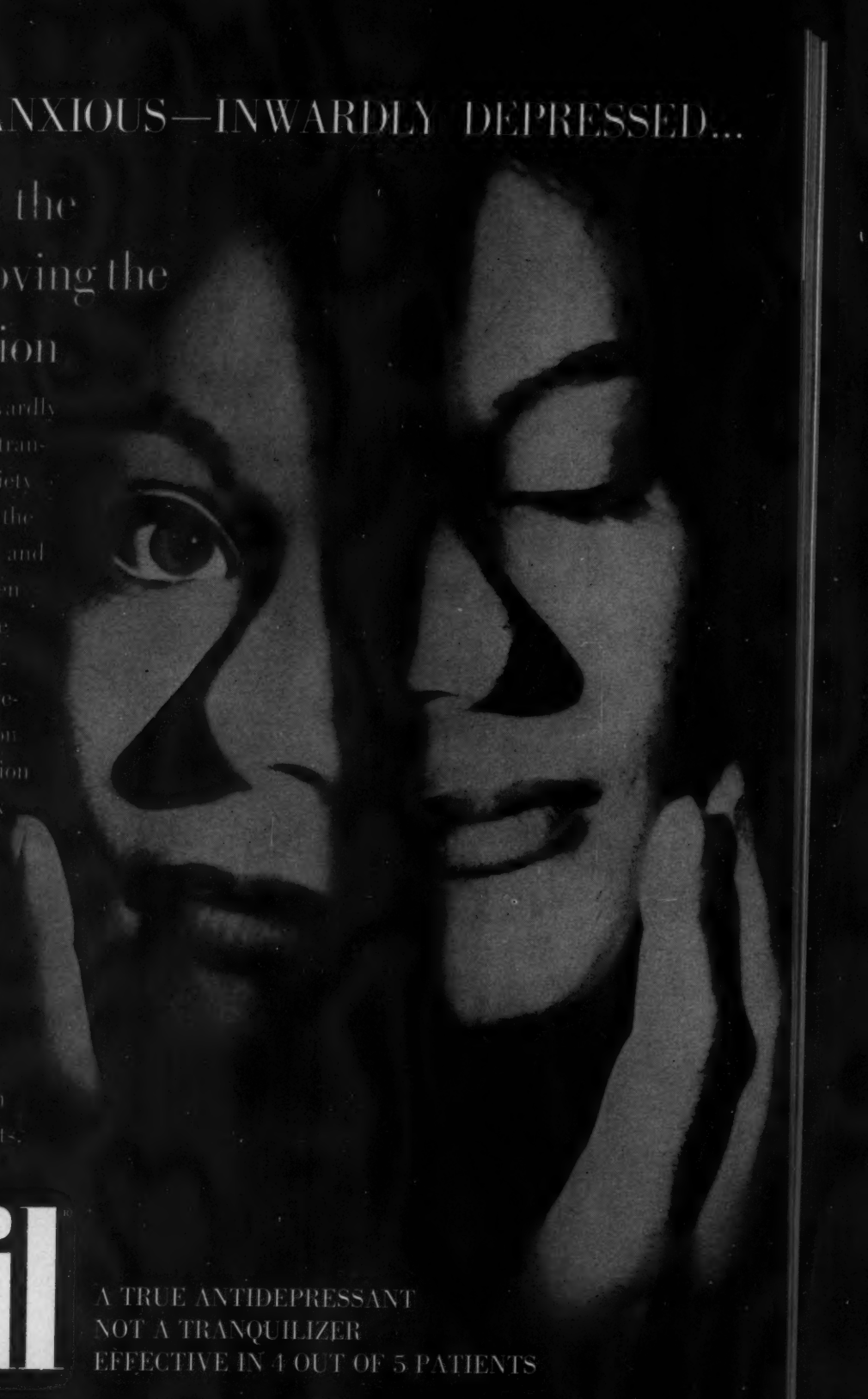

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Feb. 1961 (P-492)

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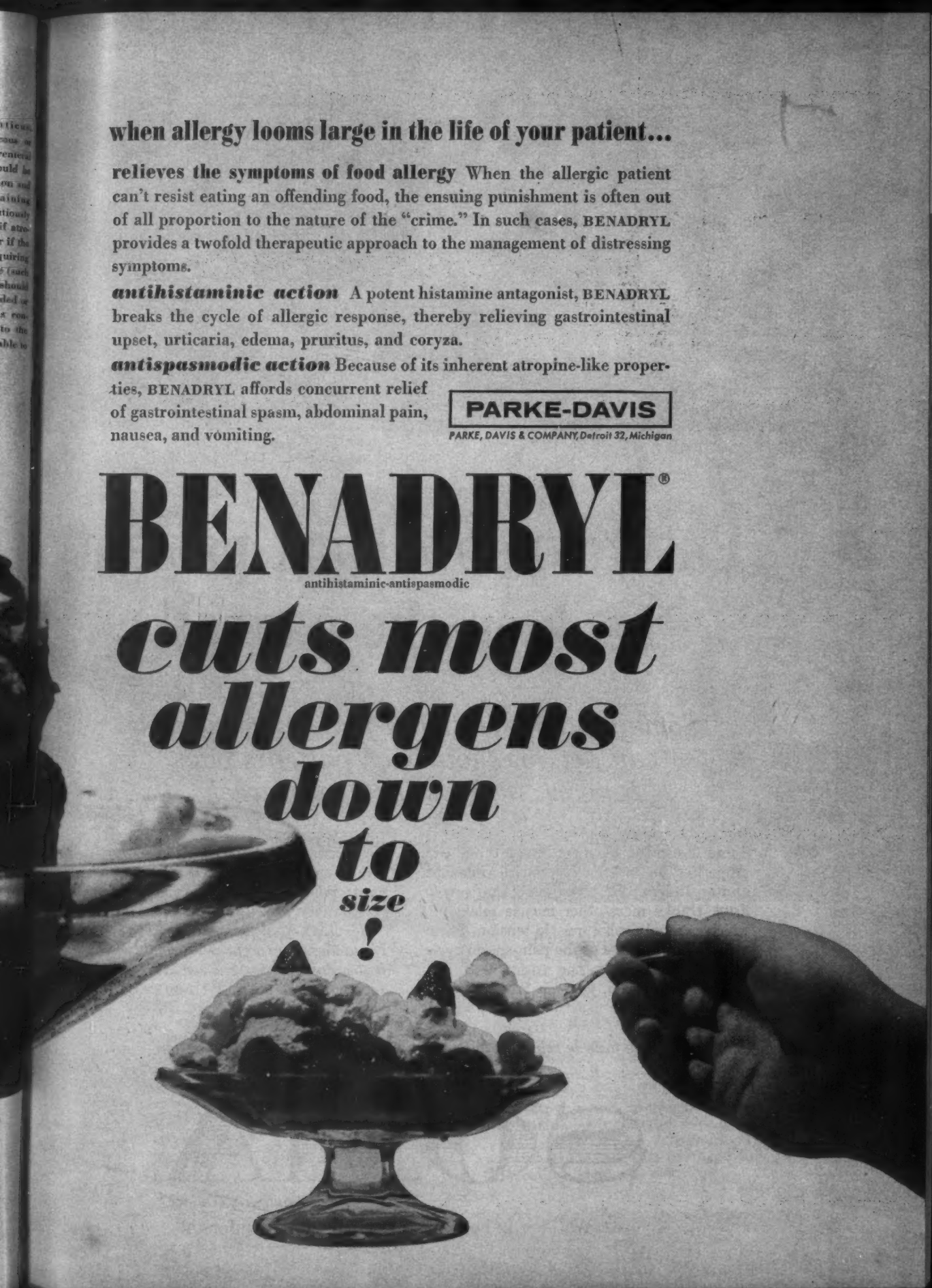

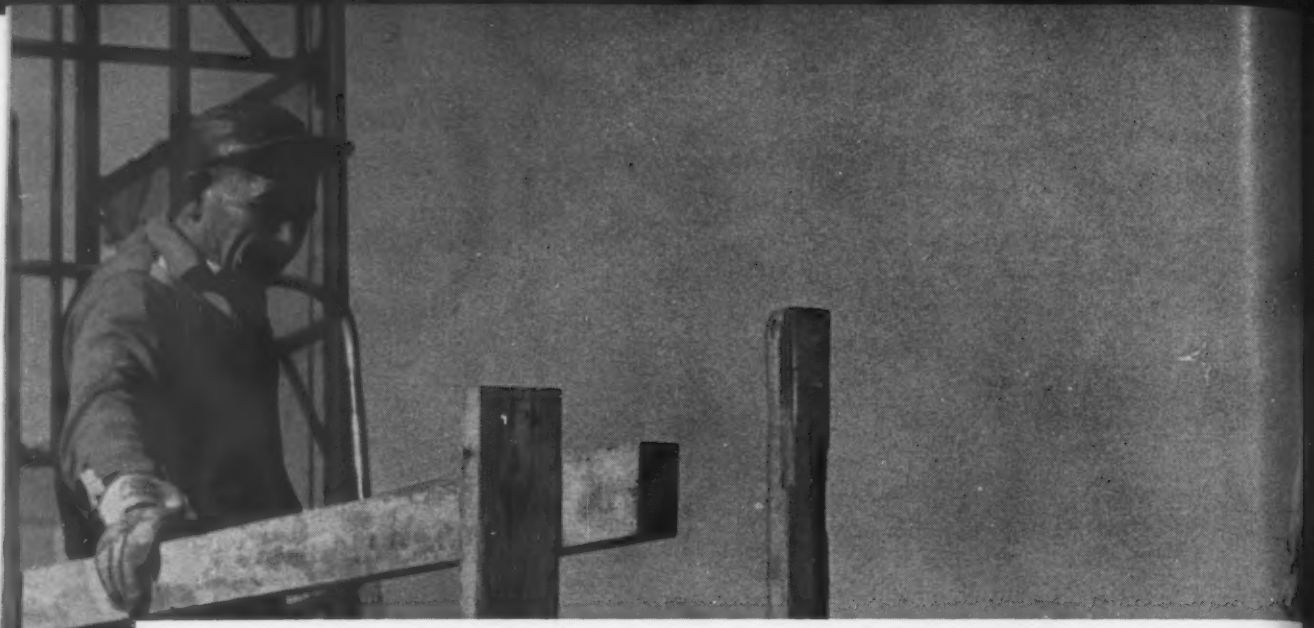

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(carisoprodol, Wallace)

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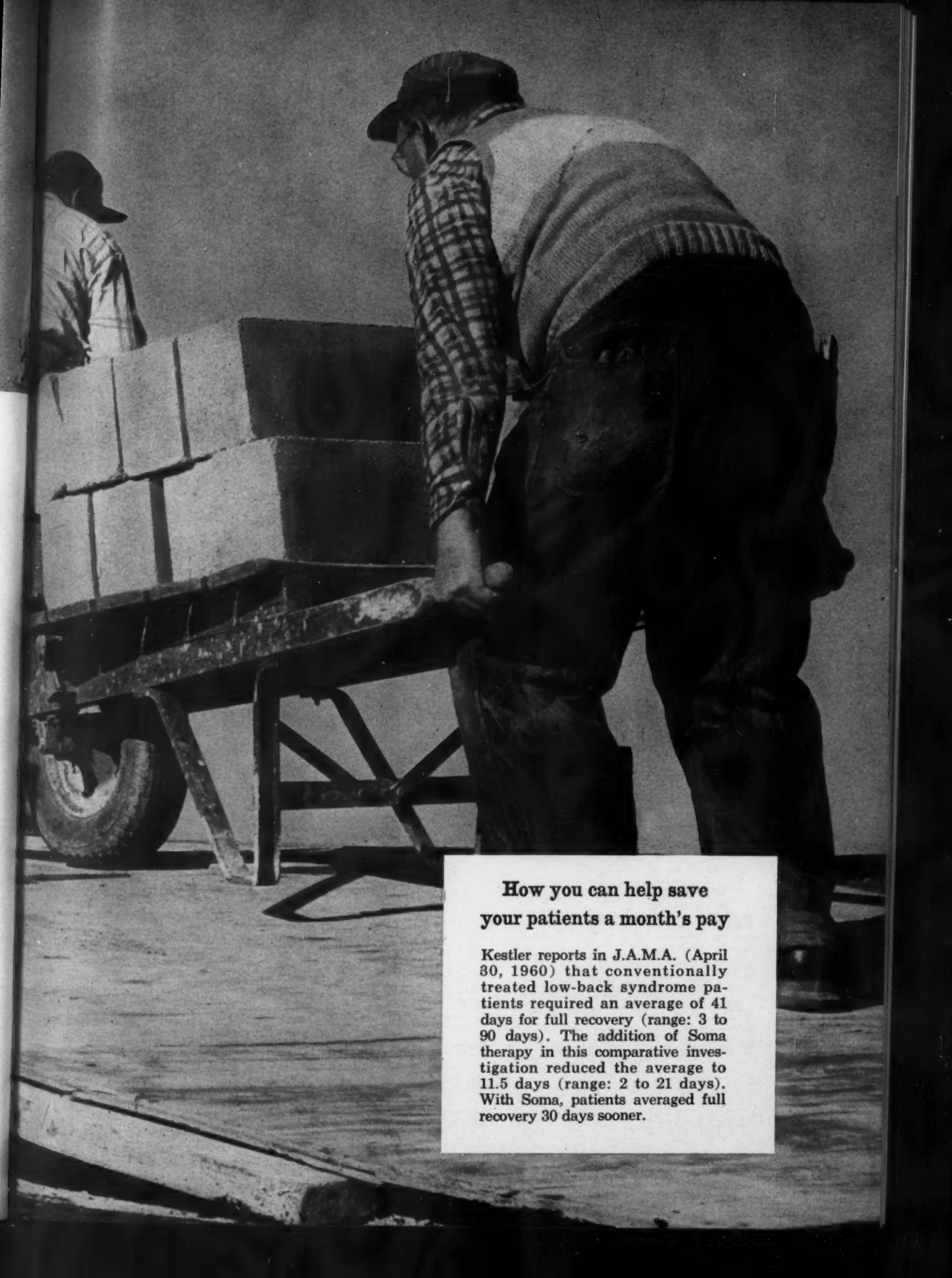
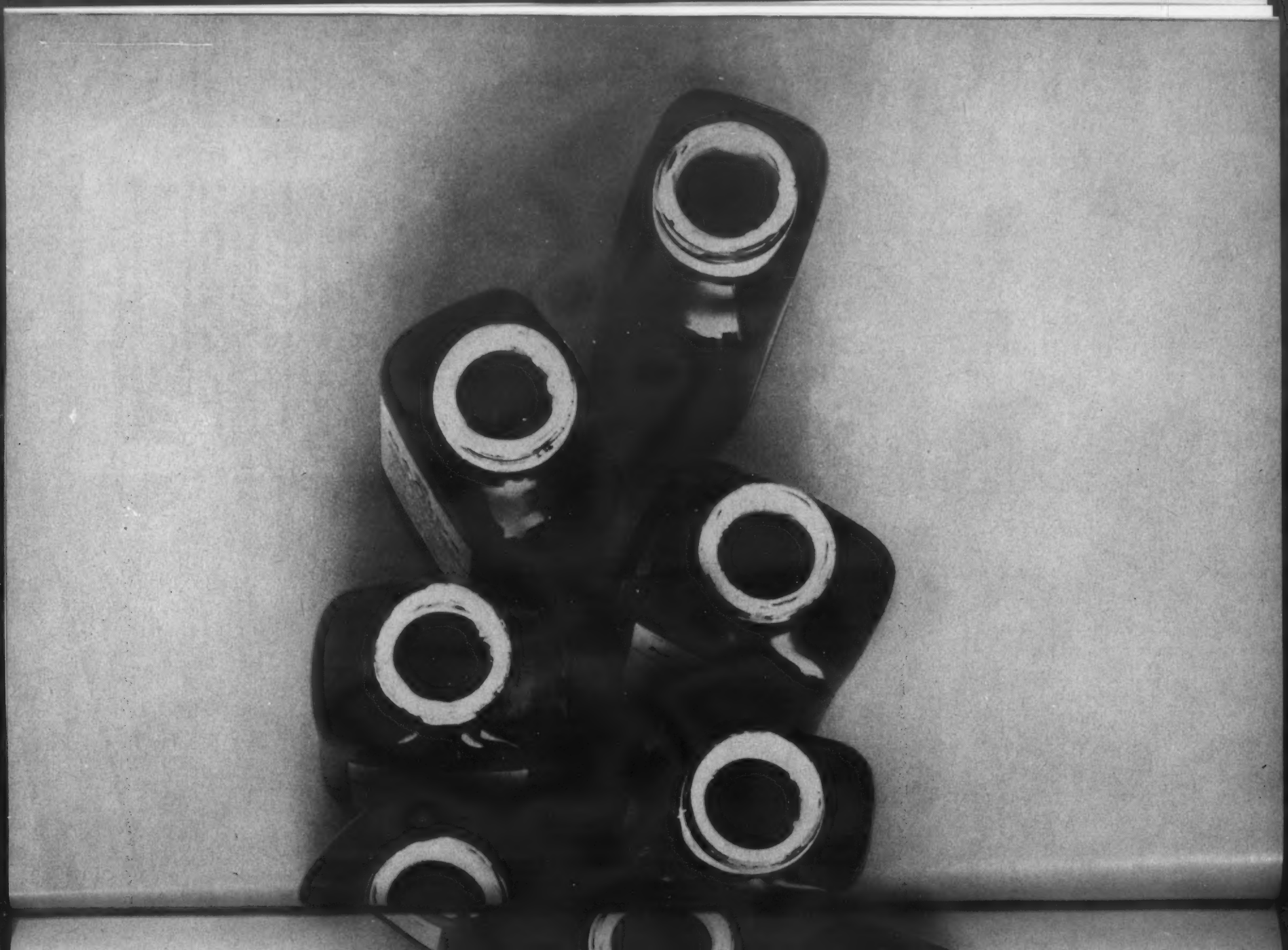


How you can help save your patients a month's pay

Kestler reports in J.A.M.A. (April 30, 1960) that conventionally treated low-back syndrome patients required an average of 41 days for full recovery (range: 3 to 90 days). The addition of Soma therapy in this comparative investigation reduced the average to 11.5 days (range: 2 to 21 days). With Soma, patients averaged full recovery 30 days sooner.



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NO CONSTIPATION

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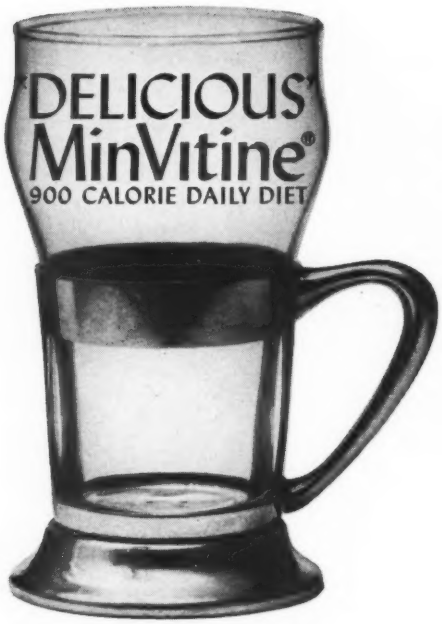
suspension tablets



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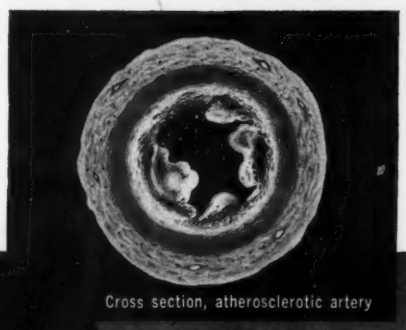

Cross section, atherosclerotic artery

to aid in the dietary control of serum cholesterol

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MAZOLA Margarine is an economical tablespread and serves as a solid shortening, rich in linoleates and low in saturates—making it an ideal dietary adjunct in the management of serum cholesterol. It contains 2 to 3 times as much natural linoleic acid as any other margarine readily available in grocery stores from coast to coast, and 5 to 8 times as much as butter. It contains no dairy or animal fats, no coconut oil, and no cholesterol.

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The average daily intake, two ounces or 56.8 Gm. (4 tablespoons) of MAZOLA Margarine, supplies

Linoleic acid	12 Gm.
Oleic acid	23 Gm.
Saturated fatty acids	8 Gm.
Plant sterols (sitosterols)	215 mg.
Natural tocopherols	30 mg.
Vitamin A	1870 USP units
Vitamin D	250 USP units
Calories	415

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to cope with the unpredictable

RELIEVES THE SYMPTOMS OF RHEUMATOID ARTHRITIS

the pain, rigidity, swelling, morning stiffness, and limitation of motion

With DECADRON, pain, rigidity, and swelling usually fade rapidly, within 24 hours.[1] Morning stiffness often disappears completely.[2] Increased joint mobility and eventual clinical control frequently follow improvement of articular symptoms, even in patients poorly controlled by other corticosteroids.[2-6]

ATTACKS THE INFLAMMATORY PROCESS OF RHEUMATOID ARTHRITIS

the rapid sedimentation rate, the secondary anemia, the fever, elevated plasma fibrinogen and globulin, and decreased plasma albumin

Treatment with DECADRON, by reducing or eliminating inflammation, may also be expected to help eliminate fever, reduce the sedimentation rate, correct abnormal plasma-protein patterns, raise hemoglobin values and red blood cell counts.[3,7-10]

IMPROVES THE GENERAL STATE AND SENSE OF HEALTH

The patient is sometimes markedly undernourished and emaciated

(Cecil, R. L., and Loeb, R. F.: A Textbook of Medicine, ed. 10, Philadelphia, W. B. Saunders Company, 1959, p. 1366.)

thin and asthenic, and very often profoundly depressed.

(Ragan, C., in Comroe's Arthritis and Allied Conditions, ed. 5, Philadelphia, Lea & Febiger, 1959, p. 151.)

The "tonic effect"[11] of dexamethasone often promotes a sense of well-being, leading to improvement in the general state of health, relief of asthenia and depression, restoration of normal nutrition and enjoyment of food.[1,3,11-14]

le pattern of rheumatoid arthritis

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1. Spies, T. D., et al.: South. M. J. *51*:1066, 1958. 2. Bunim, J. J., et al.: Arthritis & Rheumatism *1*:313, 1958. 3. Galli, T., and Mannetti, C.: Minerva med. *50*:949, 1959. And Abstr. in J.A.M.A. *170*:2254, 1959. 4. Case Reports on File, Merck Sharp & Dohme. 5. Boland, E. W.: Ann. Rheumat. Dis. *17*:376, 1958. 6. Boland, E. W.: California Med. *88*:417, 1958. 7. Cisiaghi, F., and Quarti, M.: Minerva med. *50*:959, 1959. 8. Foreign Letters: J.A.M.A. *171*:236, 1959. 9. Agostini, A.: Minerva med. *50*:926, 1959. 10. Clinical Data, Merck Sharp & Dohme. 11. Rudolph, J. A., and Rudolph, B. M.: Ann. Allergy *17*:710, 1959. 12. Cerutti, P.: Minerva med. *50*:917, 1959. 13. Cagli, V., et al.: Minerva med. *50*:941, 1959. 14. Chervinsky, P.: Ann. Allergy *17*:714, 1959.

Initial dosage depends on the type and severity of the condition. Generally between 1.5 mg. and 3 mg. per day is adequate; this should be reduced to maintenance level when control has been established. DECADRON is supplied as 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets and as Injection DECADRON Phosphate in 5-cc. vials, each cc. containing 4 mg. of dexamethasone 21-phosphate as the disodium salt. Additional information available to physicians on request.

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allergy-free for months

with a one week course of daily injections

Whether it is pollinosis, rhinitis due to other inhalants, allergic asthma, asthmatic bronchitis in children, eczema, or food sensitivity . . . regardless of the number or nature of the offending allergens . . . a daily injection of Anergex for 6 to 8 days usually provides prompt relief that persists for months in most patients.

Anergex is nonspecific in action. Its effectiveness against most allergens eliminates skin testing and long drawn-out desensitizing procedures. In contrast to the antihistamines and other drugs that provide only temporary symptomatic relief, Anergex induces a prolonged allergy-free state.

Marked improvement or complete relief has been reported in over 70 per cent of more than 5,000 patients*. Anergex appears more effective when given during exposure to the offending allergens. Relief is prompt; the patient "often feels better by the time he has had 3 or 4 doses"*. Anergex is safe; no systemic reactions have ever been reported.

Available: Vials of 8 ml.—one average treatment course. Each ml. contains 40 mg. specially prepared extractive substances obtained from the Toxicodendron quercifolium plant.

*WRITE FOR LITERATURE AND REPRINTS

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the new concept for the treatment of allergic diseases

MULFORD COLLOID LABORATORIES MULFORD PHILADELPHIA 4, PENNSYLVANIA

PATENT APPLIED FOR

Erythropoietin—a significant discovery in clinical hematology

A wealth of evidence now confirms the fact that red blood cell production is controlled by the hormone erythropoietin.[1-3] Demonstrated in human plasma,[4] erythropoietin has been shown to produce reticulocytosis,[1,5-7] increase utilization of the Fe^{59} isotope, and increase erythrocyte precursors in marrow cultures.[3,8]

ERYTHROPOIETIN FOUND TO CONTROL RED CELL FORMATION

erythropoietin levels—new criteria in diagnosis of anemia—Increased erythropoietin blood levels can be demonstrated in severe anemia and following the start of accelerated formation.[9] Soon thereafter, the effect of the higher levels appears as an increased erythroid marrow activity.[10] Since the hemopoietic marrow is capable of producing more red cells than normally required, many anemias may be due to inadequate erythropoietin levels—a result of subnormal production or excessive excretion.

how does erythropoietin affect iron metabolism? Absorption and utilization of iron are dependent upon the rate of bone marrow erythropoiesis which, in turn, is dependent upon erythropoietin levels.[11,12] Thus, the demand for iron created by accelerated erythropoiesis is satisfied by both increased gastrointestinal absorption and mobilization of storage iron. Inadequate erythropoietin levels would seemingly account for the frequently disappointing results with the use of iron alone in many of the anemias.

can medication increase erythropoietin levels? Cobalt has been shown to be strikingly effective in increasing the production of erythropoietin.[13,14] Cobalt-enhanced erythropoietin accelerates red cell production and improves iron utilization with a subsequent increase in hemoglobin and erythrocytes. The new concepts of the cause, diagnosis, and management of anemia may now be applied clinically on the sound basis of extensive studies published on RONCOVITE®—MF, the therapeutic cobalt-iron hematinic.

(1) Gordon, A. S.: Physiol. Rev. **39**:1, 1959. (2) Erslev, A. J.: J. Lab. & Clin. Med. **50**:543, 1957. (3) Rosse, W. F., and Gurney, C. W.: J. Lab. & Clin. Med. **53**:446, 1959. (4) Gurney, C. W.; Goldwasser, E., and Pan, C.: J. Lab. & Clin. Med. **50**:534, 1957. (5) Rambach, W. A.; Alt, H. F., and Cooper, J. A. D.: Blood **12**:1101, 1957. (6) Gordon, A. S., **et al.**: Proc. Soc. Exp. Biol. & Med. **92**:598, 1956. (7) Erslev, A. J.: Blood **10**:954, 1955. (8) Goldwasser, E.; Jacobson, L. O.; Fried, W., and Plzak, L. F.: Blood **13**:55, 1958. (9) Stohlman, F., Jr., and Brecher, G.: Proc. Soc. Exp. Biol. & Med. **100**:40, 1959. (10) Kraus, L. M., and Kraus, A. P.: Fed. Proc. **18**:1051, 1959. (11) Bothwell, T. H.; Pirzio-Biroli, G., and Finch, C. A.: J. Lab. & Clin. Med. **51**:24, 1958. (12) Beutler, E., and Buttenwieser, E.: J. Lab. & Clin. Med. **55**:274, 1960. (13) Goldwasser, E.; Jacobson, L. O.; Fried, W., and Plzak, L.: Science **125**:1085, 1957. (14) Murdock, H. R., Jr., and Klotz, L. J.: J. Am. Pharm. A. (Scient. Ed.) **48**:143, 1959.

For a complete background file on erythropoietin, please write to the Medical Service Department of:

V-00361-R 104-R

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Dosage: One or two teaspoons three times daily before meals.

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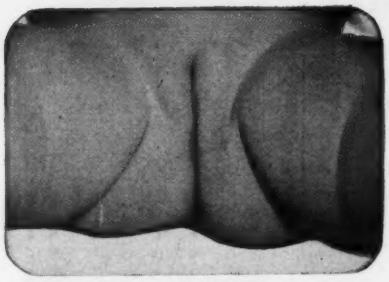
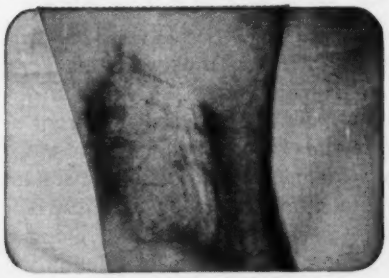


After application of White's Vitamin A & D Ointment at every diaper change—Diaper rash has completely disappeared within one week.

Before application of White's Vitamin A & D Ointment—Treatment-resistant varicose ulcer in elderly obese patient.



After daily treatment with White's Vitamin A & D Ointment—Completely healed ulcer photographed five weeks after the start of treatment with White's Vitamin A & D Ointment.

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1. Beck, C., *et al.*: Clin. Med. 7:519, 1960. 2. Teitel, L. H., *et al.*: Indust. Med. 29:150, 1960. 3. Billow, B. W., *et al.*: Southwestern Med. 41:286, 1960. 4. Clinical Reports to the Medical Department, Armour Pharmaceutical Company, 1960. 5. Taub, S. J.: Clin. Med. 7: 2575, 1960.

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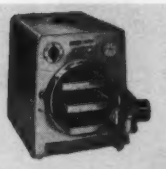

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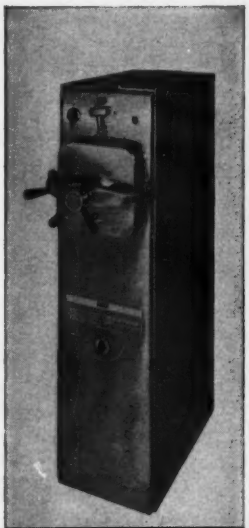

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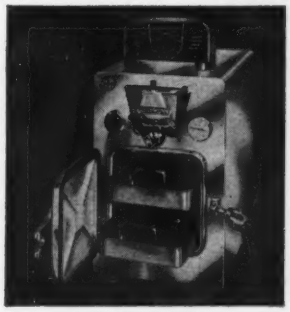

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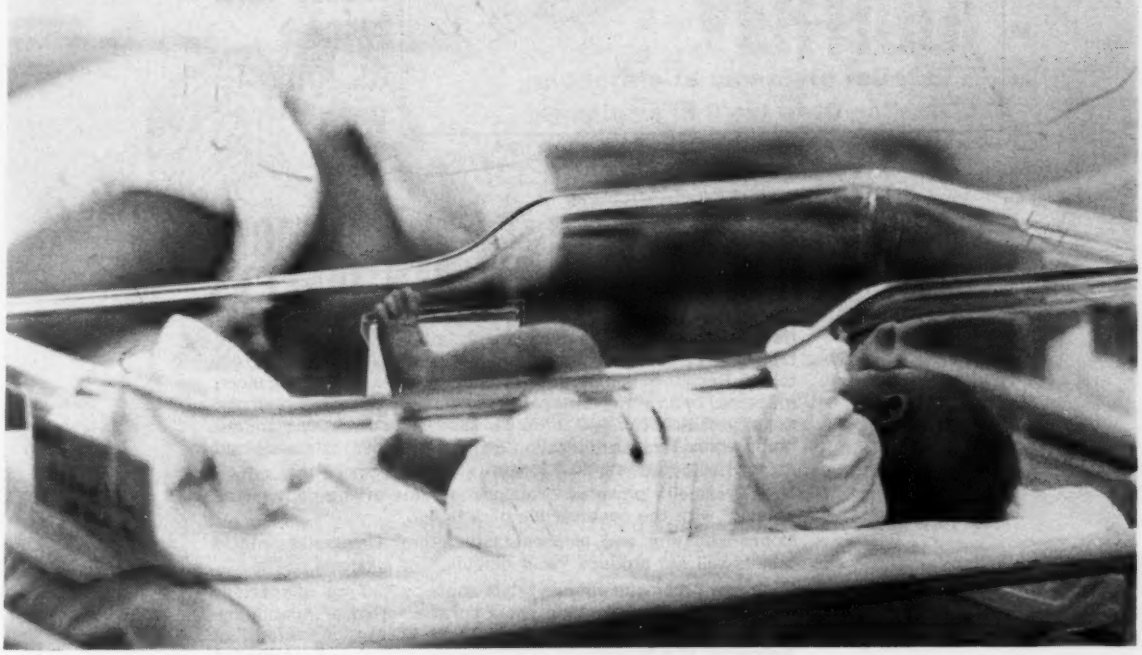

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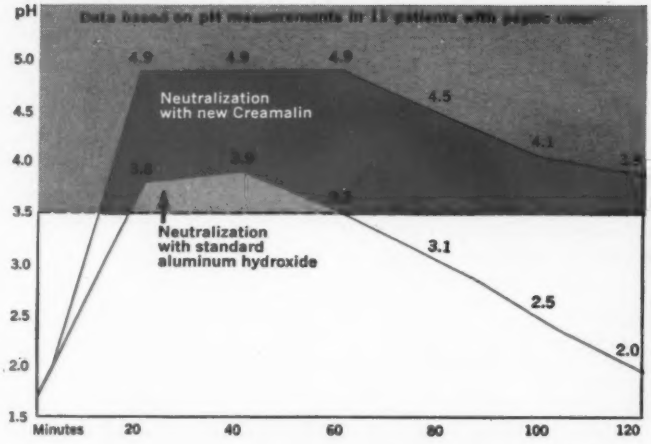

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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: J. Am. Pharm. A. (Scient. Ed.) 48:384, July, 1959.

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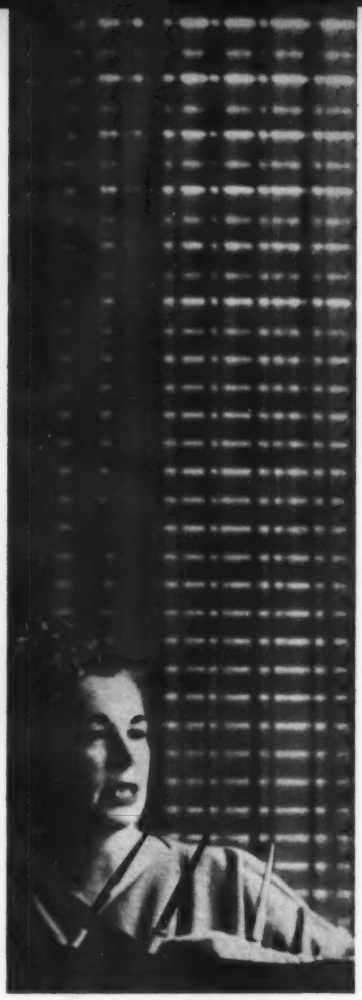
Antivert syrup

Each teaspoonful (5 cc.) contains 6.25 mg. meclizine HCl and 25 mg. nicotinic acid.



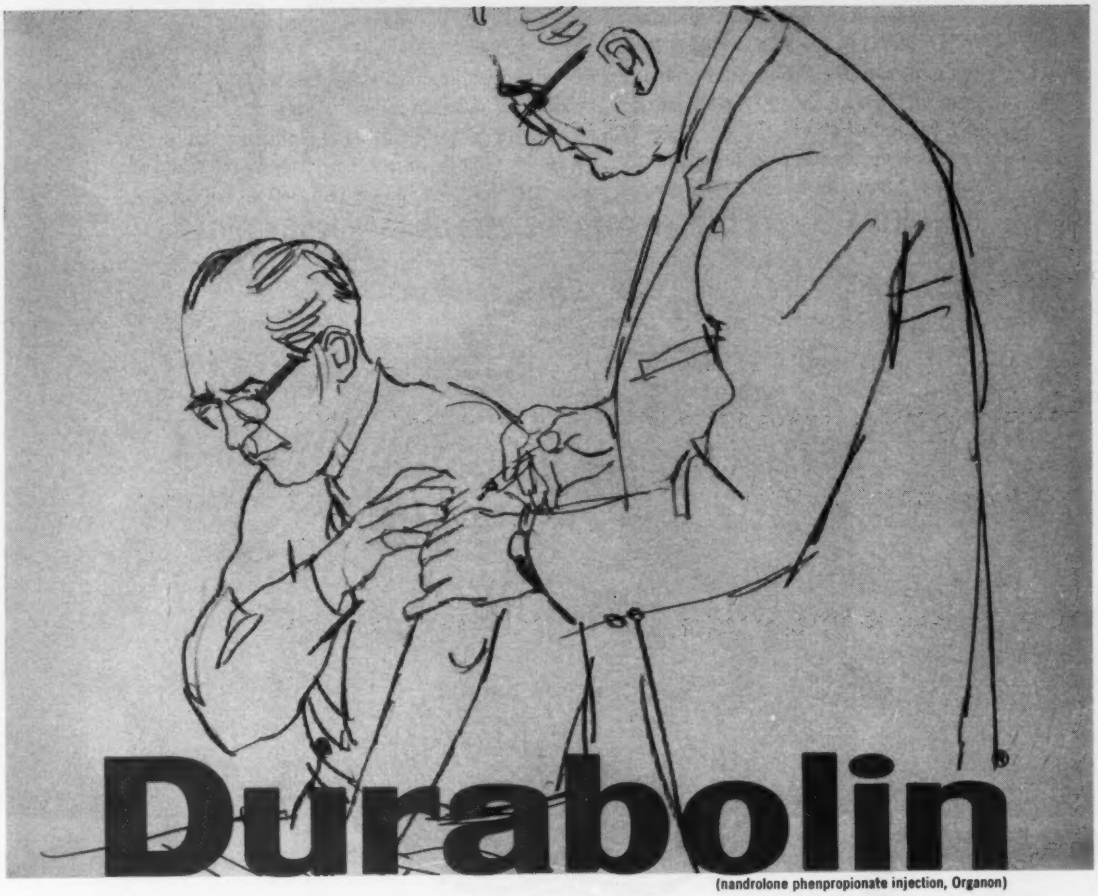
symptoms gone... feels like a new woman

basic therapy in vaginitis eliminates symptoms · itching · burning · leukorrhea · malodor · destroys pathogens · Trichomonas vaginalis · Candida (Monilia) albicans · nonspecific organisms...alone or in combination · has these advantages · high rates of clinical and cultural cures · effectiveness even in menstrual blood and vaginal debris · safe and nonirritating to delicate inflamed tissue · esthetically acceptable with no disagreeable staining

TRICOFURON®
(nifuroxime and furazolidone) Improved
Powder/Suppositories

EATON LABORATORIES
Division of The Norwich Pharmacal Company
NORWICH, NEW YORK

in chronic fatigue and post-viral debility



(nandrolone phenpropionate injection, Organon)

once every 7 to 14 days provides safer, sustained anabolic revitalization

anabolic steroid	anabolic / androgenic	duration
Testosterone propionate (i.m.) Fluoxymesterone (oral)		3-4 days 1 day
Methyltestosterone (oral)		1 day
Norethandrolone (oral)		1 day
Durabolin (i.m.)		7-10 days

Chart adapted from Craig, P.: J. Okla. St. M.A. (June) 1960.

Green bar represents anabolic potency; gray bar shows relative androgenicity

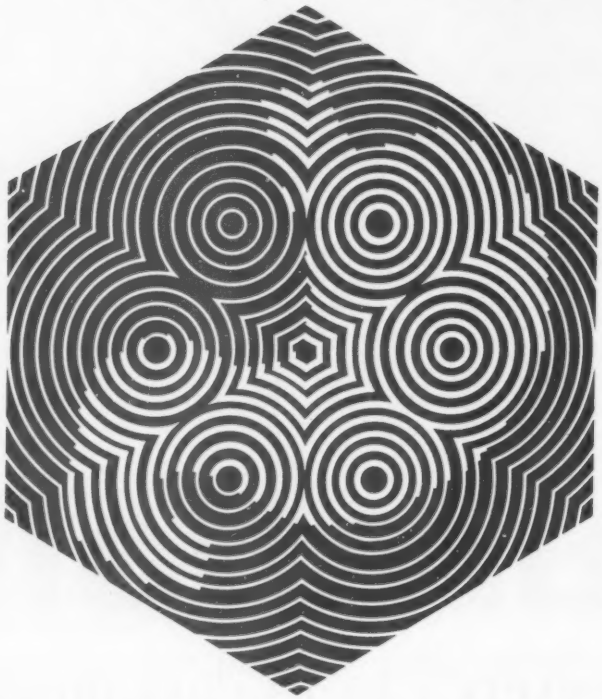
Supplied:
5-cc. vials,
1-cc. ampuls (box of 3)
25 mg. nandrolone phenpropionate/cc.

Organon

Organon Inc.,
West Orange, N. J.

"UPSET STOMACH" ON DIGITALIS 52-year old male had rheumatic heart disease, cardiomegaly Grade II, auricular fibrillation, mitral stenosis, mitral insufficiency, and was in class III-C. For 17 months he had been in failure. Three grains of digitalis daily were required for effective maintenance therapy. When the patient began to complain of frequent "upset stomach", he was placed on digitoxin, with an alternating 0.1 and 0.2 daily maintenance dose. Nausea became very severe after two months, and digitoxin was decreased to 0.1 mg. daily. Congestive failure increased and rehospitalization was necessary. Patient was given GITALIGIN, 0.5 mg. q.i.d. for two days, then 1.5 mg. daily for six weeks, followed by 1.0 mg. per day with 1.5 mg. every third day. Failure was effectively controlled without toxicity.[1]

"DIGITALIS TOXICITY IS SEEN WITH INCREASING FREQUENCY TODAY..."[2]



for maximal digitalis activity with minimal toxicity

Gitaligin®†

"...patients who became toxic very readily with other agents could later be satisfactorily digitalized with gitalin (GITALIGIN)."[2]
Wider margin of safety—frequently effective in patients refractory to other digitalis glycosides • broader clinical utility—therapeutic dose only ⅓ the toxic dose • faster rate of elimination than digitoxin or digitalis leaf. □ Supplied: 0.5 mg. scored tablets—bottles of 30 and 100.

1. Dimitroff, S. P. et al.: Ann. Int. Med. 39:1189, 1953. 2. Pastor, B. H.: GP 22:85, 1960.

†amorphous gitalin, White

WHITE LABORATORIES, INC. • Kenilworth, New Jersey

✓ from depression to the right frame of mind

✓ continuous, 24-hour cerebral oxygenation for the aging patient. By stimulating respiratory and circulatory function, GERONIAZOL TT* relieves mental confusion, depression, anxiety, and emotional instability—frequent problems in patients after forty—due to presenile changes in the vasculature of the brain. Notable benefit usually is seen within one to three weeks of therapy. It improves appetite, sleep pattern, and outlook—and GERONIAZOL TT* is non-hypertensive, non-excitatory.

Neither a tranquilizer nor a psychic energizer, GERONIAZOL TT* provides a physiologic stimulation of the cerebrum to permit the patient to adjust to his surroundings, become part of life itself again—and *attain the right frame of mind.*

References: 1. Curran, T. R., and Phelps, D. K.: Am. Pract. & Dig. Treat. *11:* 617, 1960. 2. Levy, S.: J.A.M.A. *153:* 1260, 1953. 3. Connolly, R.: W. Va. Med. J. *56:* 263, 1960.

Each TEMPOTROL contains: Pentylenetetrazol, 300 mg.; and Nicotinic Acid, 150 mg.

Indications: Respiratory and circulatory stimulant for the aged and debilitated with symptoms of mental confusion, depression, anxiety or arteriosclerotic psychosis.

Contraindications: None known in recommended dosage.

Dosage: One GERONIAZOL TT* tablet, b. i. d.

Supplied: Bottles of 42 tablets (3 weeks' treatment).

GERONIAZOL® TT*

*TEMPOTROL® (Time Controlled Therapy)

COLUMBUS PHARMACAL COMPANY affiliate of PHILIPS ROXANE, INC.
Columbus 16, Ohio

first choice for MIGRAINE
recurrent, throbbing "sick" headaches...

CAFERGOT®

When the headache is associated with nervous tension and G.I. disturbance:

CAFERGOT P-B TABLETS: **ergotamine tartrate 1 mg., caffeine 100 mg., Bellafoline 0.125 mg., pentobarbital sodium 30 mg. Dosage: 2 at first sign of attack; if needed, 1 additional tablet every ½ hour until relieved (maximum 6 per attack).**

CAFERGOT P-B SUPPOSITORIES: **ergotamine tartrate 2 mg., caffeine 100 mg., Bellafoline 0.25 mg., pentobarbital sodium 60 mg. Dosage: 1 as early as possible in attack; second in 1 hour, if needed (maximum 2 per attack).**

CAFERGOT TABLETS: **ergotamine tartrate 1 mg., caffeine 100 mg. Dosage: same as Cafergot P-B Tablets.**

CAFERGOT SUPPOSITORIES: **ergotamine tartrate 2 mg., caffeine 100 mg. Dosage: same as Cafergot P-B Suppositories.**

SANDOZ

For a new brochure on Migraine and Tension Headaches, reviewing clinical reports on diagnosis and therapy, write: Sandoz, Hanover, N. J.

Flexible Modess Tampons are designed to curve naturally below the uterus—providing complete absorbency for all lines of menstrual flow. Flexible Modess Tampons assure your patient of more protection, more comfort and more freedom.

... *flexible*

Modess Tampons

Diagrammatic view of vagina with flexible Modess Tampon

oral aminophylline readily tolerated

by almost every patient

AMINOPHYLLINE DURA-TAB S.M.®

Oral Sustained Medication* Aminophylline 4½ gr. (.3 Gm.)

one dose q.12 h. maintains effective uniform blood levels in cardio-pulmonary conditions

Many patients who cannot tolerate ordinary aminophylline tablets can now take **Aminophylline Dura-Tab S.M.** without gastric irritation. The reason: only a fraction of this sustained-action aminophylline contacts the gastric membranes — the balance being absorbed slowly all along the intestinal tract.

one dose q. 12 h. (1 to 2 Aminophylline Dura-Tabs) in adults maintains effective blood levels. For children under 10, one-half Dura-Tab q. 8 to 10 h. • Indicated in bronchial asthma, pulmonary emphysema, congestive heart failure, angina pectoris, paroxysmal dyspnea and Cheyne-Stokes respiration.

Bottles of 30, 100, 250 — cost comparable to ordinary aminophylline tablets.

*U. S. Patent No. 2,895,881

Samples and literature upon request.

WYNN PHARMACAL CORPORATION
Lancaster Ave. at 51st Street, Philadelphia 31, Pa.

Proven

in over five years of clinical use and
more than 750 published clinical studies

Effective

for relief of anxiety and tension

Outstandingly Safe

- simple dosage schedule produces rapid, reliable tranquilization without unpredictable excitation
- no cumulative effects, thus no need for difficult dosage readjustments
- does not produce ataxia, change in appetite or libido
- does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis
- does not impair mental efficiency or normal behavior

Miltown®

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; or as MEPROTABS®—400 mg. *unmarked*, coated tablets.

WALLACE LABORATORIES / *Cranbury, N. J.*

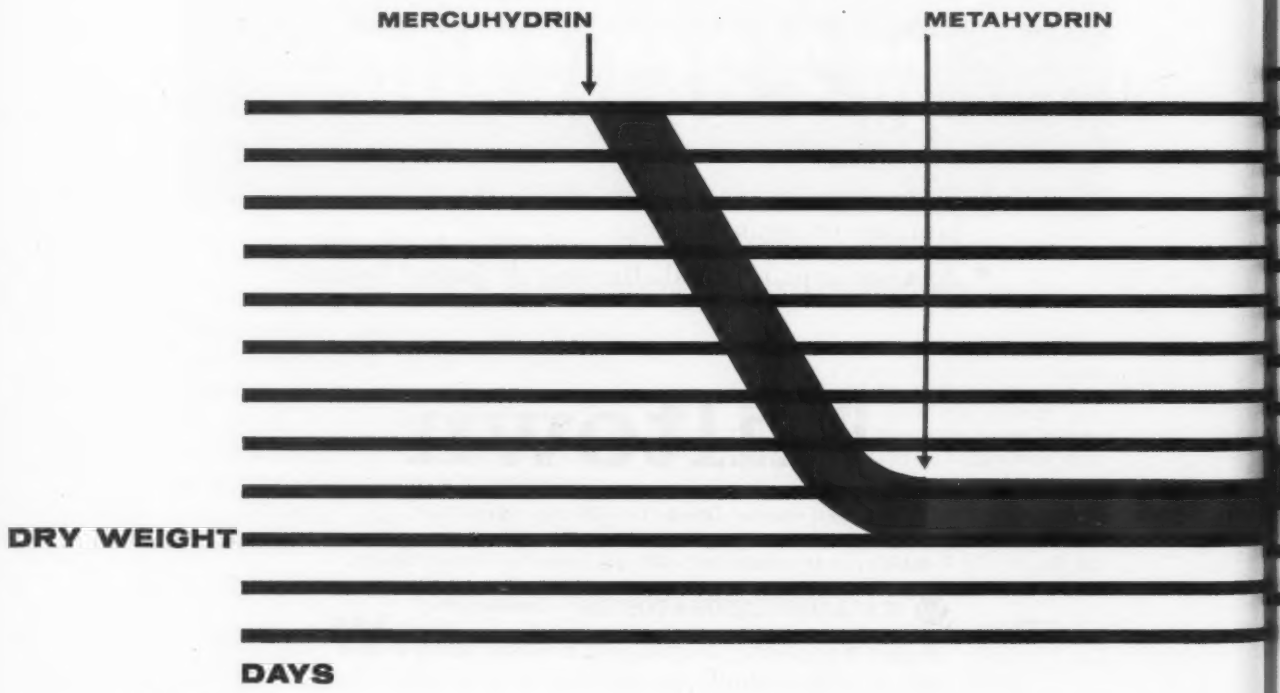
BM-2058

NOW...ESSENTIAL PARTNERS IN THE CONTROL OF EDEMA

CLASSIC **MERCUHYDRIN®**
BRAND OF MERALLURIDE SODIUM

NON-MERCURIAL **METAHYDRIN®**
BRAND OF TRICHLORMETHIAZIDE

THE ALTERNATE OR COMBINED USE OF THESE TWO DRUGS NOW CAN HELP THE PHYSICIAN MEET WITH MAXIMAL EFFICIENCY THE DEMANDS OF DIURETIC THERAPY IN ALMOST ANY PHASE OR DEGREE OF EDEMA—ACUTE OR CHRONIC.



LAKESIDE LABORATORIES, INC.

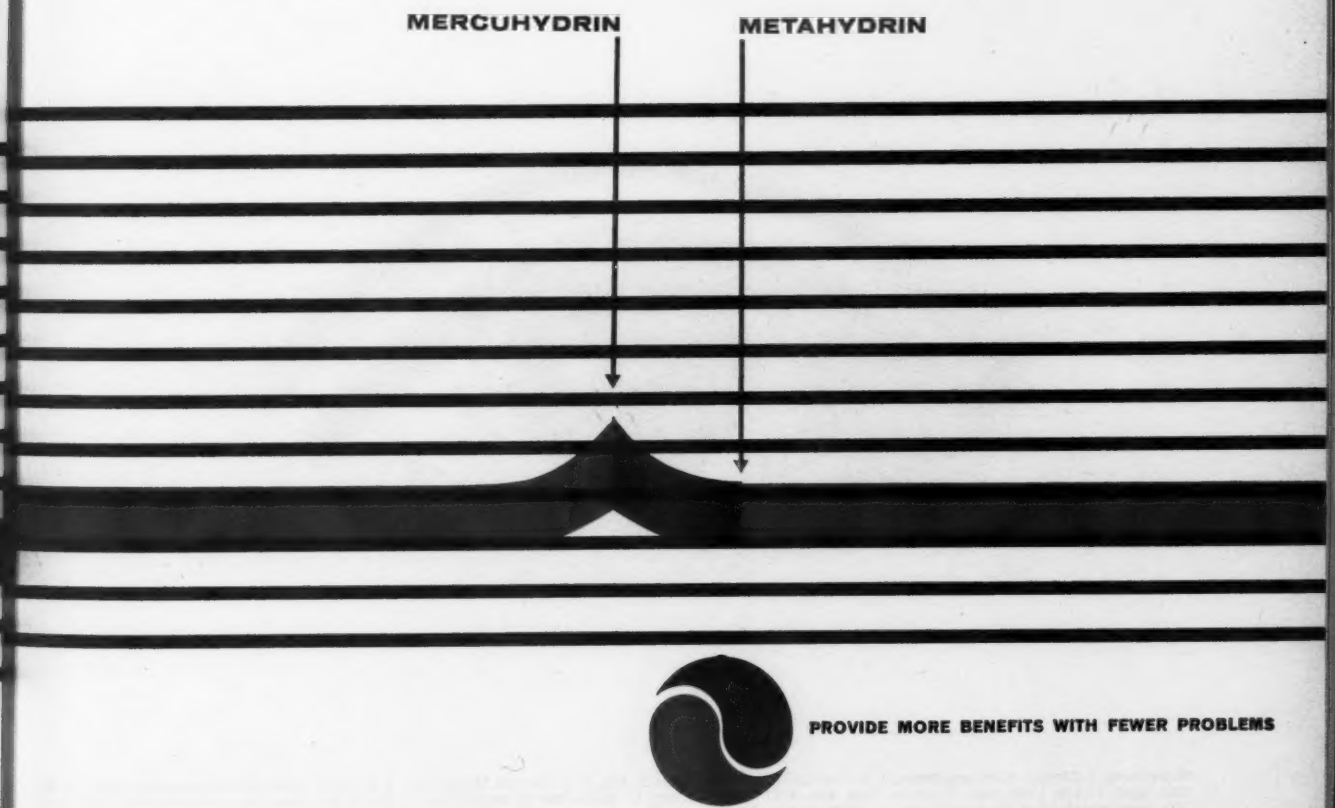
Where immediate diuresis is urgent, there is no substitute for MERCUHYDRIN's ability to provide rapid return to "dry weight." Now, with the introduction of METAHYDRIN, the most effective oral non-mercurial diuretic for maintenance is also available. If for any reason weight increases, the periodic use of MERCUHYDRIN in low dosage will assure return to dry weight and further minimize potassium loss.

No single drug can provide optimal therapy for the management of all conditions of edema in all patients. As is well known, too vigorous or prolonged use of any one diuretic may result in disturbances in fluid and electrolyte balance with interruption of therapy. METAHYDRIN may be used alone to initiate diuresis in the less critical patient or with MERCUHYDRIN to enhance diuresis in the severely ill patient. In these conditions, and in maintenance, METAHYDRIN's prolonged effect and favorable ratio of sodium-to-potassium excretion provides maximal benefits in diuretic therapy.

PRESCRIPTION INFORMATION

METAHYDRIN

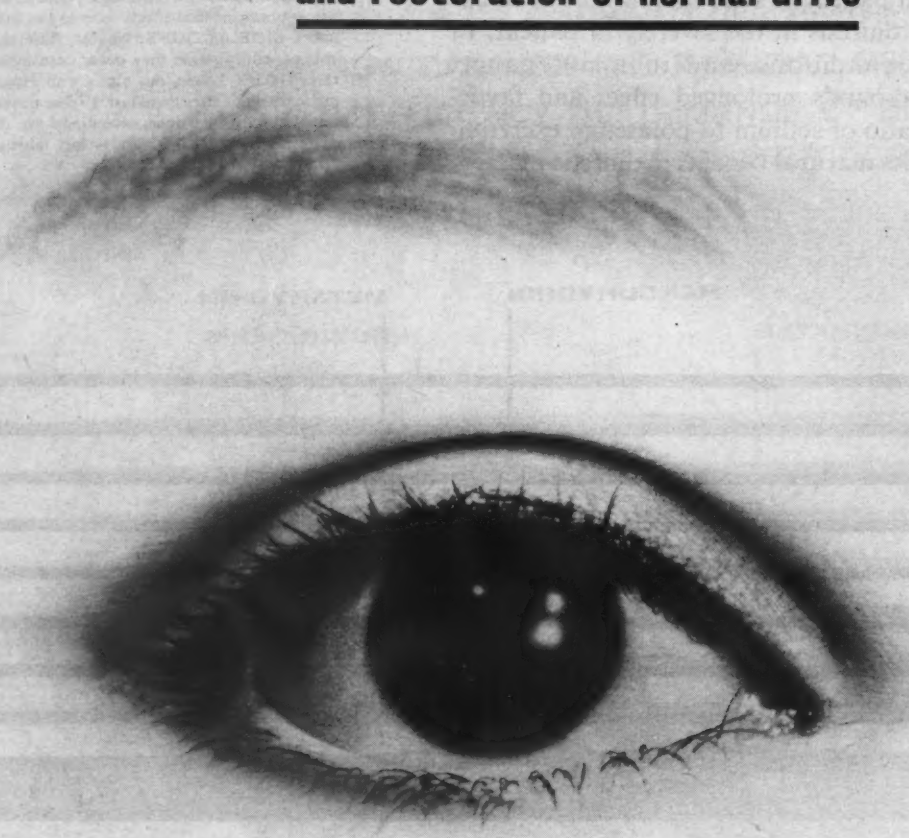
Trichlormethiazide, Lakeside. New oral diuretic of the benzothiadiazine group for the management of edema and hypertension. More potent than similar diuretics reported to date. Effective in low dosage. Lessened risk of K and HCO_3 loss than with chlorothiazide or hydrochlorothiazide. Action more prolonged than with other benzothiadiazine derivatives. USES: Edema in congestive heart failure, the nephrotic syndrome, hepatic cirrhosis, toxemia of pregnancy, edema caused by drugs, premenstrual tension, edema of pregnancy. In mild and moderate hypertension as primary therapy or in conjunction with other hypotensive agents in reduced dosage. PRECAUTIONS: Patients with severely reduced renal function should be observed for acidosis and hyperkalemia. Disturbed glucose and uric acid metabolism or excretion have not been reported but may occur. Patients with hepatic cirrhosis or diarrheal syndromes, or under therapy with digitalis, ACTH, or potassium-losing adrenal steroids, should be observed for signs of hypokalemia, even though its occurrence is less likely with METAHYDRIN than with hydrochlorothiazide or chlorothiazide. For detailed information on indications, dosage, administration, precautions and side effects refer to METAHYDRIN package insert. SIDE ACTIONS: Nausea, flushing, mild muscle cramps, constipation may occur occasionally; skin rash rare. DOSE: Edematous states and Hypertension: 2-4 mg. once daily after breakfast. Higher doses may be given initially. Individual doses exceeding 8 mg. do not increase diuresis. SUPPLIED: 2 and 4 mg. tablets in bottles of 100 and 1000.



PROVIDE MORE BENEFITS WITH FEWER PROBLEMS

serenity without somnolence

with sharpened mental acuity and restoration of normal drive



References: 1. Carsley, S. H., and Olson, J. A.: Submitted for publication. 2. Ayd, F. J.: Current Therap. Res. 1:41, 1959. Additional bibliography: Ernst, E. M.: Clin. Med. 7:1349, 1960. Bodi, T., et al.: Clin. Res. 8:72, 1960. Dunlop, E.: Submitted for publication. Grimaldi, R.: Presented at the Annual Congress of Pan American Medical Association, May 6, 1960, Mexico City. Compilation of case reports received by the Medical Department, White Laboratories, Inc.

Permitil® Chronotabs®

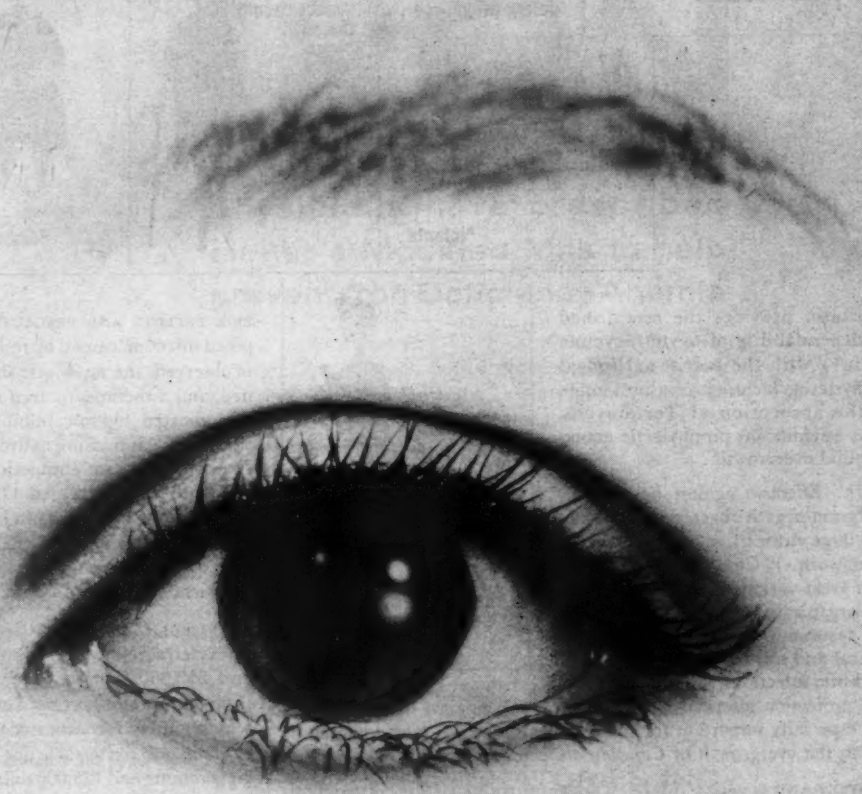
Fluphenazine dihydrochloride sustained-action tablets

just one tablet daily, for all hours of the waking day

For the patient with anxiety-induced chronic emotional fatigue "The most elusive and most frequently seen form of anxiety is that of the seemingly 'well' patient who simply complains of being tired all the time—who is found to be drowning his normal energies in indefinable fears and tensions. When apathy and chronic fatigue are part of the picture—as they so frequently are—barbiturates and meprobamate-type tranquilizers are of questionable value, since the sedative action of these compounds often increase fatigue and exacerbate the depressive undertones of anxiety."[1]

PERMITIL CHRONOTABS allay anxiety, sharpen acuity For the office management of chronic emotional fatigue and other manifestations of anxiety, one PERMITIL CHRONOTAB "mitigates apathy, indifference, inertia and anxiety-induced fatigue"[2] for all the hours of the waking day.

"The drug appears capable of controlling adequately the disrupting influence of anxiety so that patients seem able to cope more effectively with life's problems."[1]



Ayerst WHITE LABORATORIES, INC., Kenilworth, New Jersey

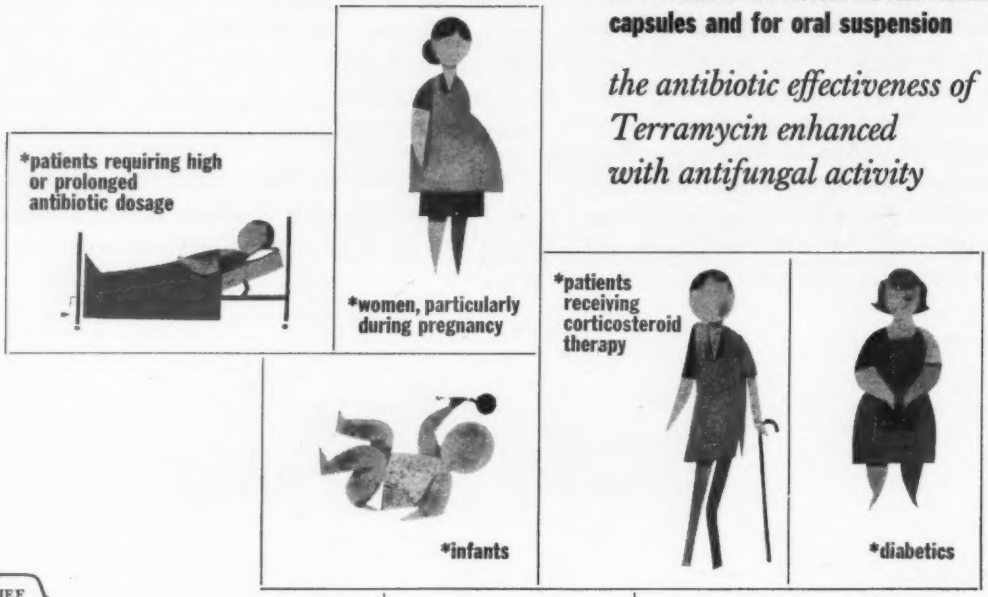
wherever
monilial superinfection
*is a particular hazard**

new Cosa-Terrastatin®

OXYTETRACYCLINE WITH GLUCOSAMINE PLUS NYSTATIN

capsules and for oral suspension

the antibiotic effectiveness of Terramycin enhanced with antifungal activity



IN BRIEF

Cosa-Terrastatin provides the established antibiotic dependability of oxytetracycline (Terramycin®) with the potent antifungal activity of nystatin; inclusion of glucosamine enhances the absorption of Terramycin. Nystatin has a significant prophylactic action against monilial overgrowth.

INDICATIONS: Effective against both gram-positive and gram-negative bacteria, rickettsiae, spirochetes, large viruses, and certain parasites (amebae, pinworms), Cosa-Terrastatin is indicated in a great variety of infections due to susceptible organisms, e.g., infections of the respiratory, gastrointestinal, and genitourinary tracts, surgical and soft-tissue infections, ophthalmic and otic infections, and many others. The added protection afforded by Cosa-Terrastatin against monilial superinfection is especially important for those patients who are most likely to be susceptible to the overgrowth of *Candida albicans*.

ADMINISTRATION AND DOSAGE: Adults: Dosage providing 1 Gm. of oxytetracycline daily in four divided doses is usually effective. In *severe* infections, 2-4 Gm. daily may be indicated. Infants and children: 10-20 mg. of oxytetracycline per lb. of body weight daily.

SIDE EFFECTS AND PRECAUTIONS: If superimposed infection caused by resistant staphylococci is observed, the antibiotic should be discontinued, and a therapeutic trial of other antibiotics as indicated by susceptibility testing may be initiated. Aluminum hydroxide gel has been shown to decrease antibiotic absorption and is therefore contraindicated. Glossitis and allergic reactions are rare. Nystatin is virtually nontoxic and nonsensitizing; side effects are seldom observed. There are no known contraindications to glucosamine.

SUPPLIED: *Cosa-Terrastatin Capsules*, 250 mg. of oxytetracycline with 250 mg. of glucosamine and 250,000 units of nystatin, bottles of 50. *Cosa-Terrastatin for Oral Suspension*, each 5 cc. teaspoonful of reconstituted suspension contains 125 mg. of oxytetracycline with 125 mg. of glucosamine and 125,000 units of nystatin, 60 cc. bottles.

More detailed professional information available on request.

Pfizer *Science for the world's well-being®* / PFIZER LABORATORIES *Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York*

IRON

For over a quarter century physicians have prescribed Baker's Modified Milk to help prevent Iron Deficiency Anemia

Milk is an excellent vehicle for administration of iron —absorption is high[1], and digestive disturbances are minimized.[2] Baker's Modified Milk provides 7.5 mg. of iron per quart of formula—a prophylactic level, safely in excess of the Recommended Daily Allowance.[3]

Baker's Modified Milk, made only from Grade A milk, contains ample protein and the RDA of vitamins. The butterfat has been completely replaced with well-tolerated vegetable fats. It is simple to prepare, economical to use, and is scientifically formulated to duplicate the nutritional results of breast milk. Powder and Liquid.

OPTIMUM NUTRITION
Providing all the normal dietary requirements plus a reserve for stress situations.

1. Schulz, Jeanette and Smith, N. J.: A. M. A. J. Dis. Child. 95:109(1958)
2. Josephs, H. W.: Medicine 32: 125 (1953)
3. Recommended Dietary Allowances, NAS-NRC Publication 589 (1958)

Baker's MODIFIED MILK

The prepared formula made by
THE BAKER LABORATORIES, INC.
Cleveland 15, Ohio

AN AMES CLINIQUICK®

CLINICAL BRIEFS FOR MODERN PRACTICE

COMBINING CONTROL OF DIABETES AND ITS COMPLICATIONS

Today, as yesterday, "the diabetic dies of his complications and not of his disease."[1] Increased diabetic longevity, moreover, increases the incidence and relative importance of such long-term complications as vascular degenerative lesions of the kidney and peripheral blood vessels. Current opinion further stresses that the best available retardant of such complications is close and continuous control of diabetes.[2]

Close diabetic control, by the patient by frequent testing for glucosuria, is essential. Whether treatment is oral, parenteral, or solely dietary, detection and quantitation of urine-glucose enables the supervised patient to adjust medication and diet rationally.

Testing for ketonuria, on the other hand, is a protective measure. It may warn of ketosis induced by major infections and a variety of stress conditions, as well as alerting to the ketoacidosis of insulin insufficiency.[3] Urine testing for ketones aids both management of ketogenic disorders and maintenance of control most likely to delay long-term complications of diabetes.

(1) Joslin, E. P., in Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: The Treatment of Diabetes Mellitus, ed. 10, Philadelphia, Lea & Febiger, 1959, p. 239. (2) Goodman, J. I.: M. Times 88:1168, 1960. (3) Haunz, E. A., and Cornatzer, W. E.: Minnesota Med. 41:836, 1958.

Routine urine-sugar testing with CLINITEST® and urine-ketone testing with ACETEST® may be signally vital to certain "special risk" patients. Among these are the juvenile diabetic patient, the adult with severe diabetes, the pregnant diabetic, and the patient on oral hypoglycemic medication. These patients, in particular, gain both short- and long-term benefit by closely following their physician's instructions about routine urine testing.

for closer daily control of diabetes—and better protection against its complications

TEST FOR BOTH **GLUCOSURIA** —AND **KETONURIA**

with **color-calibrated**

CLINITEST® BRAND Reagent Tablets

standardized urine-sugar test for clear-cut quantitative readings

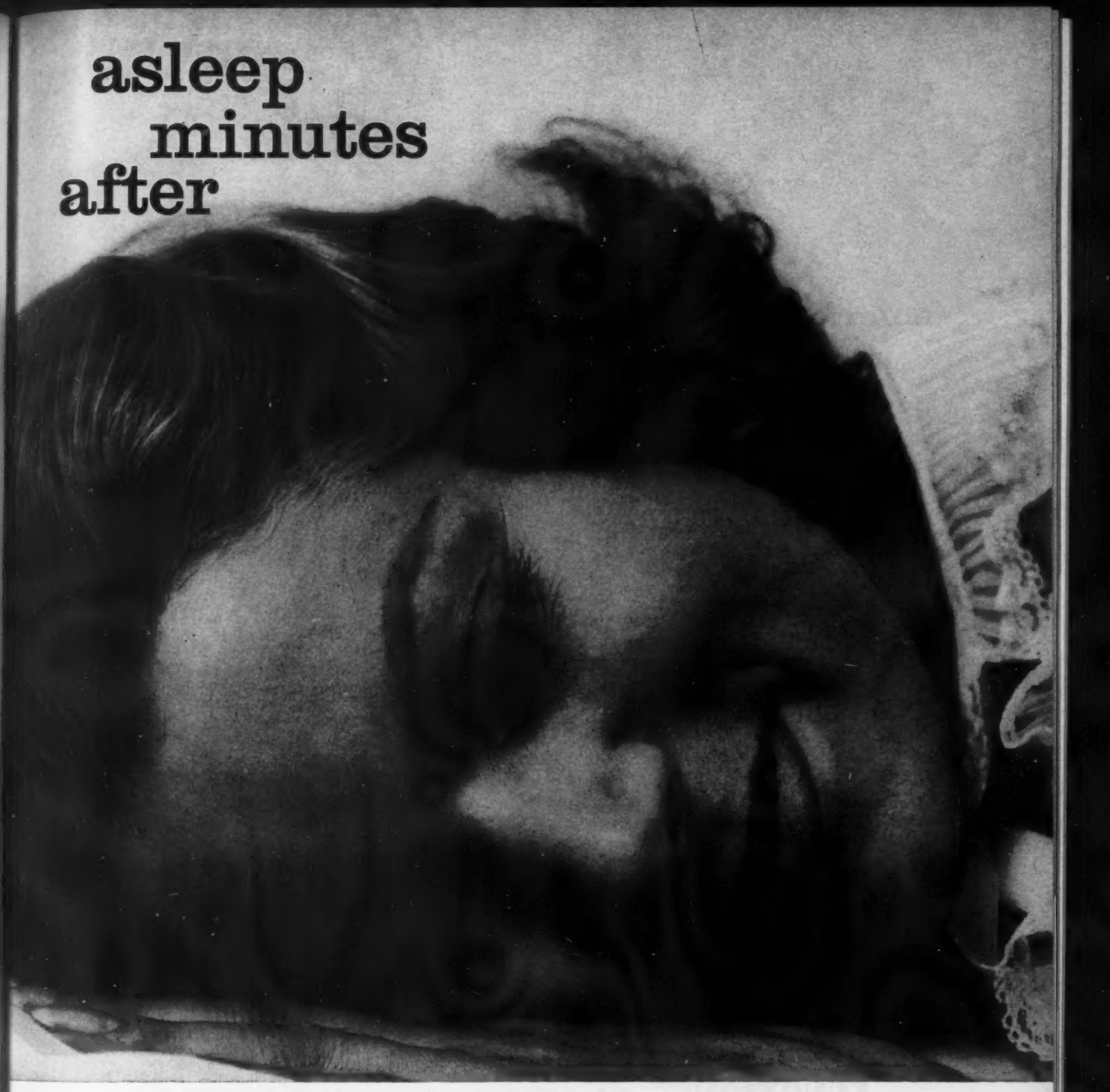
with **ketone-specific**

ACETEST® BRAND Reagent Tablets

1 drop of urine—a few seconds—detects both acetone and acetoacetic acid

01061

AMES COMPANY, INC. Elkhart • Indiana Toronto • Canada



This is the promise of Noludar 300... a night of deep, refreshing sleep without risk of habituation or toxicity... 6 to 8 hours of undisturbed rest... an easy awakening in the morning, free of fogginess or barbiturate "hangover." Try Noludar 300 for your next patient with a sleep problem. One capsule at bedtime. Chances are she'll tell you

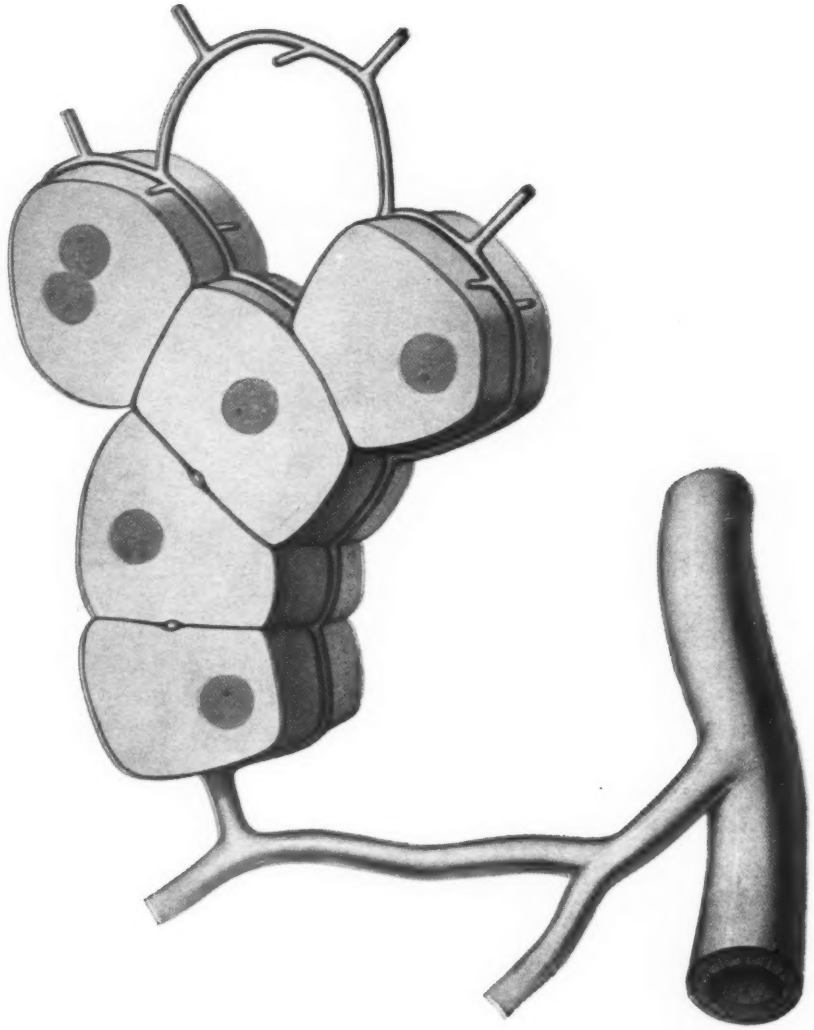
"I slept like a log"

NOLUDAR® 300

brand of methyprylon

300-mg capsules

ROCHE LABORATORIES • Division of Hoffmann-La Roche Inc • Nutley 10, New Jersey



IMPROVE HEPATO-BILIARY FUNCTION AT THE CELLULAR LEVEL WITH CHOLAN-HMB®

Cholan-HMB contains chemically pure oxidized bile acid to stimulate the production of a large volume of thin bile, flush the biliary tree, improve digestion of fats, and relieve the symptoms of dyspepsia, constipation and indigestion caused by intrahepatic biliary stasis.

To counteract spasm of the biliary sphincters and relax the gallbladder, Cholan-HMB contains spasmolytic homatropine methylbromide. The mild sedative component helps to calm the tense, emotional patient with hepatobiliary dysfunction. Cholan-HMB provides physiologic and symptomatic relief of biliary stasis in primary biliary dyskinesia, pre- and postcholecystectomy syndrome, cholangitis, and digestive disturbances of pregnancy.

Cholan-HMB® — dehydrocholic acid, Maltbie, 250 mg.; 2.5 mg. homatropine methylbromide, and 8 mg. phenobarbital. 1 or 2 tablets t.i.d. after meals.

Cholan-V® — dehydrocholic acid, Maltbie, 250 mg., and 5 mg. homatropine methylbromide. 1 or 2 tablets t.i.d. after meals.

Cholan-DH® — dehydrocholic acid, Maltbie, 250 mg. 1 or 2 tablets t.i.d. after meals.

Supplied: Bottles of 100, 500, and 1,000 tablets.
Contraindication: severe hepatitis; complete obstruction of the hepatic or common bile ducts; glaucoma

Maltbie

Maltbie Laboratories Division, Wallace & Tiernan Inc., Belleville 9, New Jersey

PCH-11

now . . .

add the essential maternal element

lacking in infant formulas

new . . .

POLYMUL®

Infant
Nutrition
Supplement

POLYMUL, a unique combination of polyunsaturated fatty acids protected by anti-oxidant tocopherols, makes any infant feeding formula a "true substitute" for mother's milk.[1] Today, infant formulas are adjusted in nutritional values to simulate human milk—however, they lack the type of fat which determines the degree of utilization of the nutritional elements. Blood assays and clinical evidence demonstrate that with POLYMUL absorption, transport, and actual cell utilization of nutritional elements approximate mother's milk.[2,3,4]

- increases caloric efficiency of any infant formula[5-7] to equal mother's milk
- satisfies hunger longer with less formula [2,3,8,9]
- helps protect against allergy . . . allergic symptoms—infantile asthma, eczema, diarrhea—tend to regress[2,5-7,10]
- improves skin texture[2,6]

POLYMUL . . . 12 years of clinical research . . . thousands of blood assays[4]

Each 1 cc. POLYMUL 'dispensulet' contains 950 mg. of unsaturated fatty acid glycerides providing:

Linoleic & Linolenic Acids	600 mg.
Tetra, Penta & Hexaenoic Acids	100 mg.
Oleic & Saturated Acids	150 mg.
Mixed Tocopherols	5 mg.
Polysorbate 80	50 mg.

Dosage: 2 to 4 cc. per day. Average dose 3 cc. per day. Contents of 3 POLYMUL 'dispensulets' in formula after sterilization or one 'dispensulet' to 4 ounces of formula for three feedings.

Supply:
Convenient, accurate 'dispensulets' (1 cc.) in dispensing carton of 100—over one month's supply.

PHARMACEUTICAL INDUSTRIES, INC.
Erlton, New Jersey

1. Worne, H. E., and Smith, L. W.: N. Y. Physician and Am. Med. 53: 44 (Dec.) 1959. 2. Smith, L. W., and Worne, H. E.: Antibiotic Med. and Clin. Therapy 4: 815 (Sept.) 1957. 3. Worne. H. E., and Smith, L. W.: 5th International Congress of Bronchoesophagology, Vienna, Austria (Aug. 31) 1956. 4. Clinical reports on file at Pharmaceutical Industries, Inc. 5. Weise, H. F., Hansen, A. E., and Adam, D. J. D.: J. Nutrition 66: 345 (Nov.) 1958. 6. Adam, D. J. D., Hansen, A. E., and Weise, H. F.: J. Nutrition 66: 555 (Dec.) 1958. 7. Hansen, A. E., et al: J. Nutrition 66: 565 (Dec.) 1958. 8. Ivy, A. C.: J. A. M. A. 108: 2-6 1935. 9. Lim, R. K. S., et al: Proc. Soc. Exp. Biol. Med. 87: 290, 1954. 10. Smith, L. W., and Worne, H. E.: Am. J. Med. Sc. 227: 682 (May) 1954.

New, more effective analgesic

Kills pain

stops tension

For neuralgias, dysmenorrhea, upper respiratory distress, postsurgical conditions... new compound kills pain, stops tension, reduces fever—gives more complete relief than other analgesics.

Soma Compound is an entirely new, totally different analgesic combination that contains three drugs. First, Soma: a new type of analgesic that has proved to be highly effective in relieving both pain and tension.* Second, phenacetin: a "standard" analgesic and antipyretic. Third, caffeine: a safe, mild stimulant for elevation of mood. As a result, the patient gets more complete relief than he does with other analgesics.

Soma Compound is nonnarcotic and nonaddicting. It reduces pain perception without impairing the natural defense reflexes.*

NEW NONNARCOTIC ANALGESIC

soma® Compound

Composition: Soma (carisoprodol), 200 mg.; phenacetin, 160 mg.; caffeine, 32 mg.
Dosage: 1 or 2 tablets q.i.d.
Supplied: Bottles of 50 apricot-colored, scored tablets.

NEW FOR MORE SEVERE PAIN

soma® Compound + codeine

BOOSTS THE EFFECTIVENESS OF CODEINE: Soma Compound boosts the effectiveness of codeine. Therefore, only ¼ grain of codeine phosphate is supplied to relieve the more severe pain that usually requires ½ grain.

Composition: Same as Soma Compound plus ¼ grain codeine phosphate.
Dosage: 1 or 2 tablets q.i.d.
Supplied: Bottles of 50 white, lozenge-shaped tablets; subject to Federal Narcotics Regulations.

References available on request.

WALLACE LABORATORIES • Cranbury, N. J.

SPECIFIC ACTION...
FROM CARDIOSPASM TO RECTOSPASM

CAPSULES

DACTIL®

the only brand of piperidolate hydrochloride

FOR UPPER G.I. DISTRESS

- "unique" antispasmodic with powerful local anesthetic properties[1]
- "...specific for upper gastrointestinal pain and spasm..."[2]
- "...no toxic effects resulting from the clinical use of this compound have been reported."[1]

TABLETS

CANTIL®

the only brand of mepenzolate bromide

FOR THE COLON

- "...the most effective available colonic anticholinergic..."[3]
- "...provides selective action, confined principally to the lower G.I. tract."[4]
- "...singularly free of the side-effects commonly encountered with anticholinergics."[5]

DACTIL provides most rapid relief of gastrointestinal spasm, biliary spasm, cardiospasm, pylorospasm, spasm of biliary sphincter, biliary dyskinesia, gastric neurosis and irritability, post-gastrectomy syndrome,and is useful as adjunctive therapy in selected inflammatory hypermotility states. DACTIL is almost entirely free of side effects but should be withheld in glaucoma.

Supplied: DACTIL (plain) 50 mg.; and DACTIL with Phenobarbital, 50 mg., with 16 mg. phenobarbital (may be habit forming). Bottles of 50.

LAKESIDE

CANTIL is highly effective in ulcerative colitis, irritable colon, mucous colitis, spastic colitis, diverticulitis, diverticulosis, malabsorption syndrome, rectospasm, diarrhea following G.I. surgery, bacillary and parasitic disorders.

The effect of CANTIL on the bladder is negligible, but caution should be observed in patients with prostatic hypertrophy. As with all anticholinergics, it should be withheld in glaucoma.

Supplied: CANTIL (plain) 25 mg.; and CANTIL with Phenobarbital, 25 mg., with 16 mg. of phenobarbital (may be habit forming). Bottles of 100 and 250.

References: (1) Rider, J. A.; Moeller, H. C., and Lee, J.: Am. J. Gastroenterol. *32*:714, 1959. (2) Modern Drug Encyclopedia and Therapeutic Index, ed. 6, New York, Drug Publications, Inc., 1955, p. 281. (3) Kleckner, M. S., Jr.: J. Louisiana M. Soc. *108*:359, 1956. (4) Kleckner, M. S., Jr.: Clin. Res. Proc. *5*:19, 1957. (5) Riese, J. A.: Am. J. Gastroenterol. *28*:541, 1957.

72561

...does she know **you** can help her?

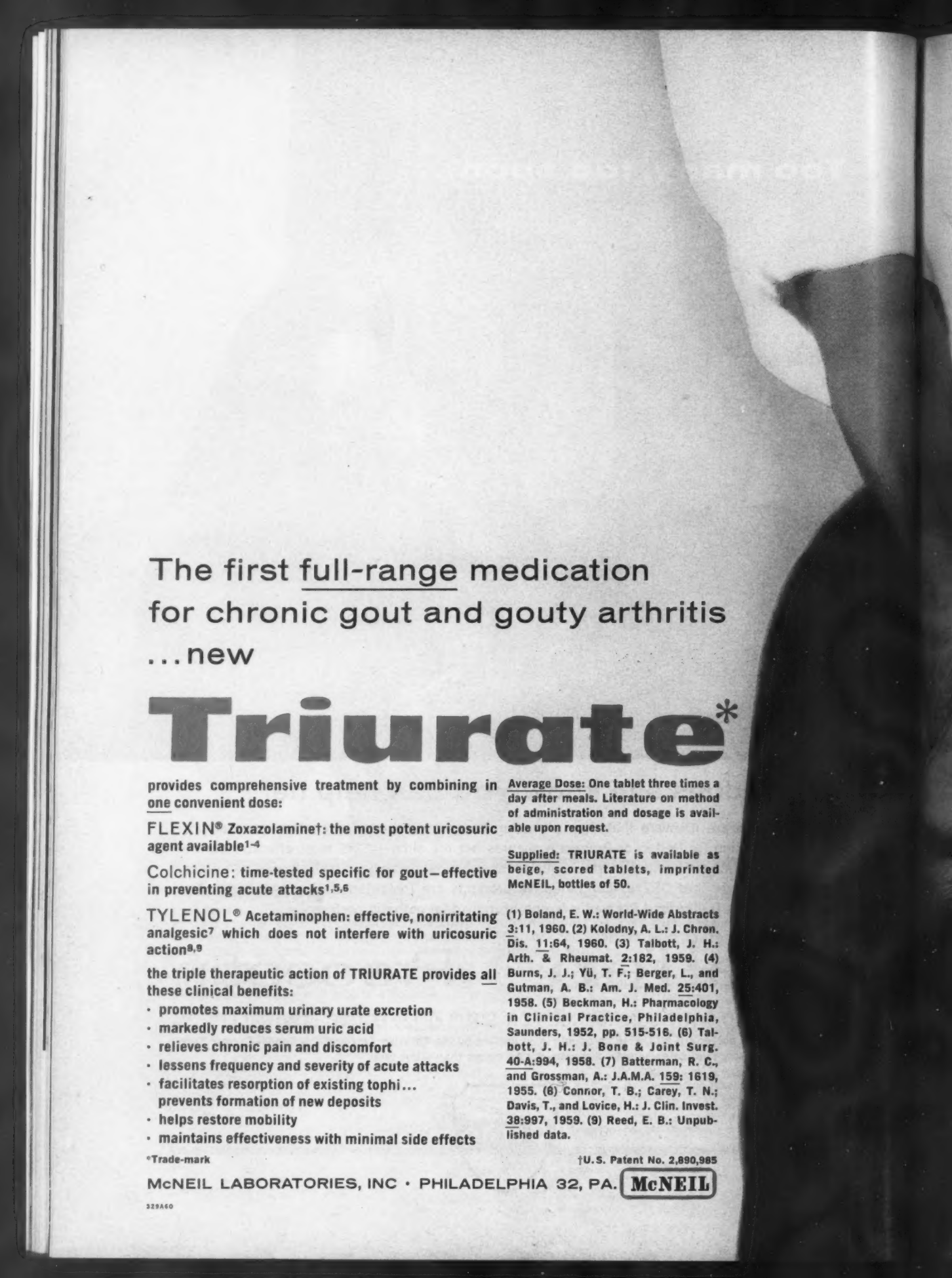
Many patients are unaware that their physician is the best source of contraceptive advice. Your prescription for Delfen or Preceptin assures her the simplest yet most effective contraceptive protection available. Accurate tests* for spermicidal potency, as well as years of clinical use, demonstrate that ORTHO contraceptive products are instantaneously spermicidal. The choice between Delfen and Preceptin is one of individual esthetic preference.

Delfen® vaginal cream **Preceptin®** vaginal gel

PRESCRIBED WITH CONFIDENCE FOR SIMPLE, EFFECTIVE CONTRACEPTION

*The spermicidal potency of all ORTHO products is controlled by the **Titration Test** and the **Sander-Cramer Test,** which more closely duplicate vaginal conditions during coitus than other tests.

Ortho



The first full-range medication for chronic gout and gouty arthritis ...new

Triurate*

provides comprehensive treatment by combining in one convenient dose:

FLEXIN® Zoxazolamine†: the most potent uricosuric agent available[1-4]

Colchicine: time-tested specific for gout—effective in preventing acute attacks[1,5,6]

TYLENOL® Acetaminophen: effective, nonirritating analgesic[7] which does not interfere with uricosuric action[8,9]

the triple therapeutic action of TRIURATE provides all these clinical benefits:

- promotes maximum urinary urate excretion
- markedly reduces serum uric acid
- relieves chronic pain and discomfort
- lessens frequency and severity of acute attacks
- facilitates resorption of existing tophi... prevents formation of new deposits
- helps restore mobility
- maintains effectiveness with minimal side effects

Average Dose: One tablet three times a day after meals. Literature on method of administration and dosage is available upon request.

Supplied: TRIURATE is available as beige, scored tablets, imprinted McNEIL, bottles of 50.

(1) Boland, E. W.: World-Wide Abstracts 3:11, 1960. (2) Kolodny, A. L.: J. Chron. Dis. 11:64, 1960. (3) Talbott, J. H.: Arth. & Rheumat. 2:182, 1959. (4) Burns, J. J.; Yü, T. F.; Berger, L., and Gutman, A. B.: Am. J. Med. 25:401, 1958. (5) Beckman, H.: Pharmacology in Clinical Practice, Philadelphia, Saunders, 1952, pp. 515-516. (6) Talbott, J. H.: J. Bone & Joint Surg. 40-A:994, 1958. (7) Batterman, R. C., and Grossman, A.: J.A.M.A. 159: 1619, 1955. (8) Connor, T. B.; Carey, T. N.; Davis, T., and Lovice, H.: J. Clin. Invest. 38:997, 1959. (9) Reed, E. B.: Unpublished data.

*Trade-mark

†U.S. Patent No. 2,890,985

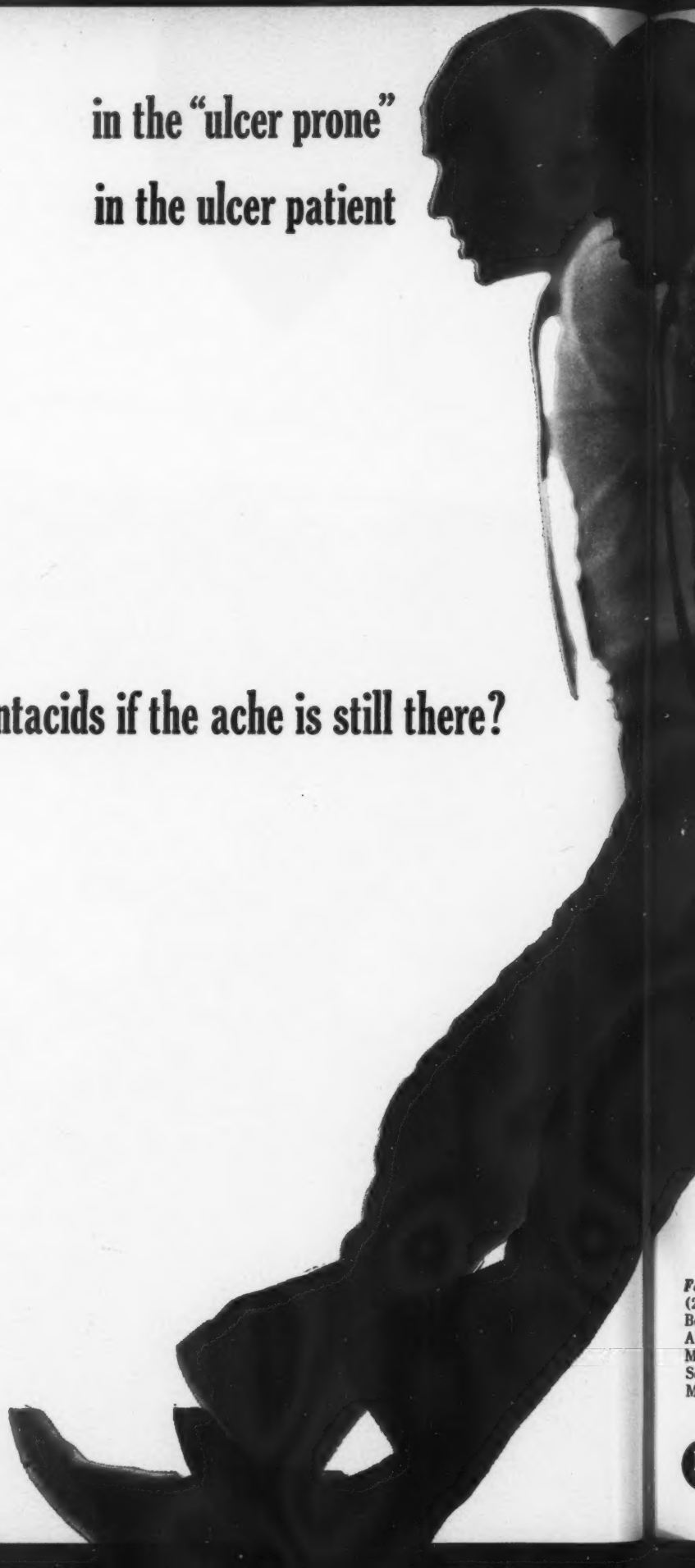
McNEIL LABORATORIES, INC • PHILADELPHIA 32, PA. McNEIL

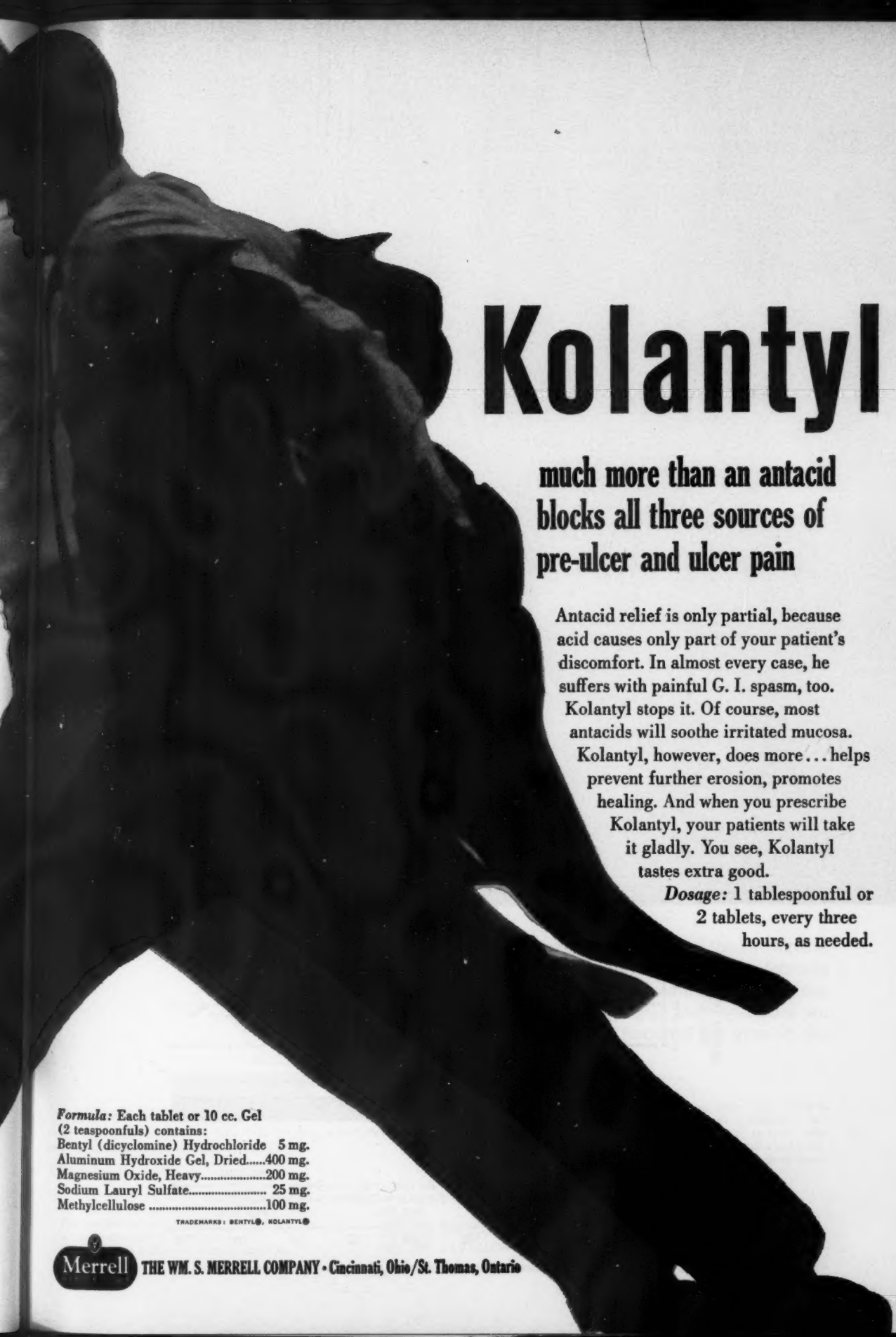
329A60

in the "ulcer prone"

in the ulcer patient

...what good are antacids if the ache is still there?





Kolantyl

much more than an antacid blocks all three sources of pre-ulcer and ulcer pain

Antacid relief is only partial, because acid causes only part of your patient's discomfort. In almost every case, he suffers with painful G. I. spasm, too. Kolantyl stops it. Of course, most antacids will soothe irritated mucosa. Kolantyl, however, does more... helps prevent further erosion, promotes healing. And when you prescribe Kolantyl, your patients will take it gladly. You see, Kolantyl tastes extra good.

Dosage: 1 tablespoonful or 2 tablets, every three hours, as needed.

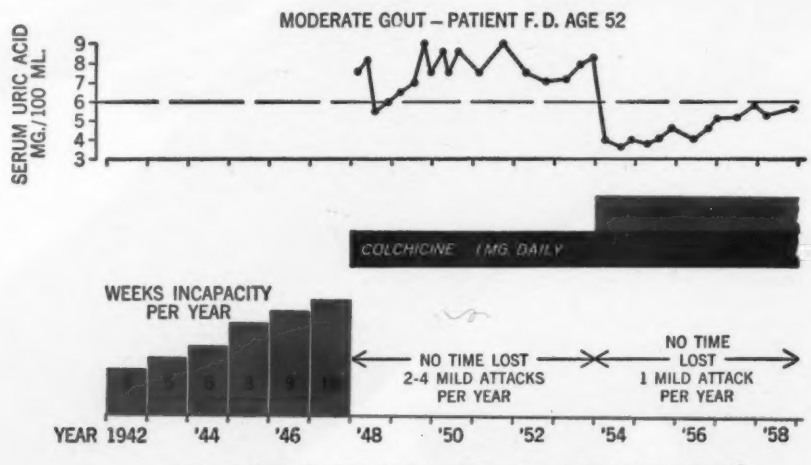
Formula: Each tablet or 10 cc. Gel (2 teaspoonfuls) contains:

Bentyl (dicyclomine) Hydrochloride	5 mg.
Aluminum Hydroxide Gel, Dried	400 mg.
Magnesium Oxide, Heavy	200 mg.
Sodium Lauryl Sulfate	25 mg.
Methylcellulose	100 mg.

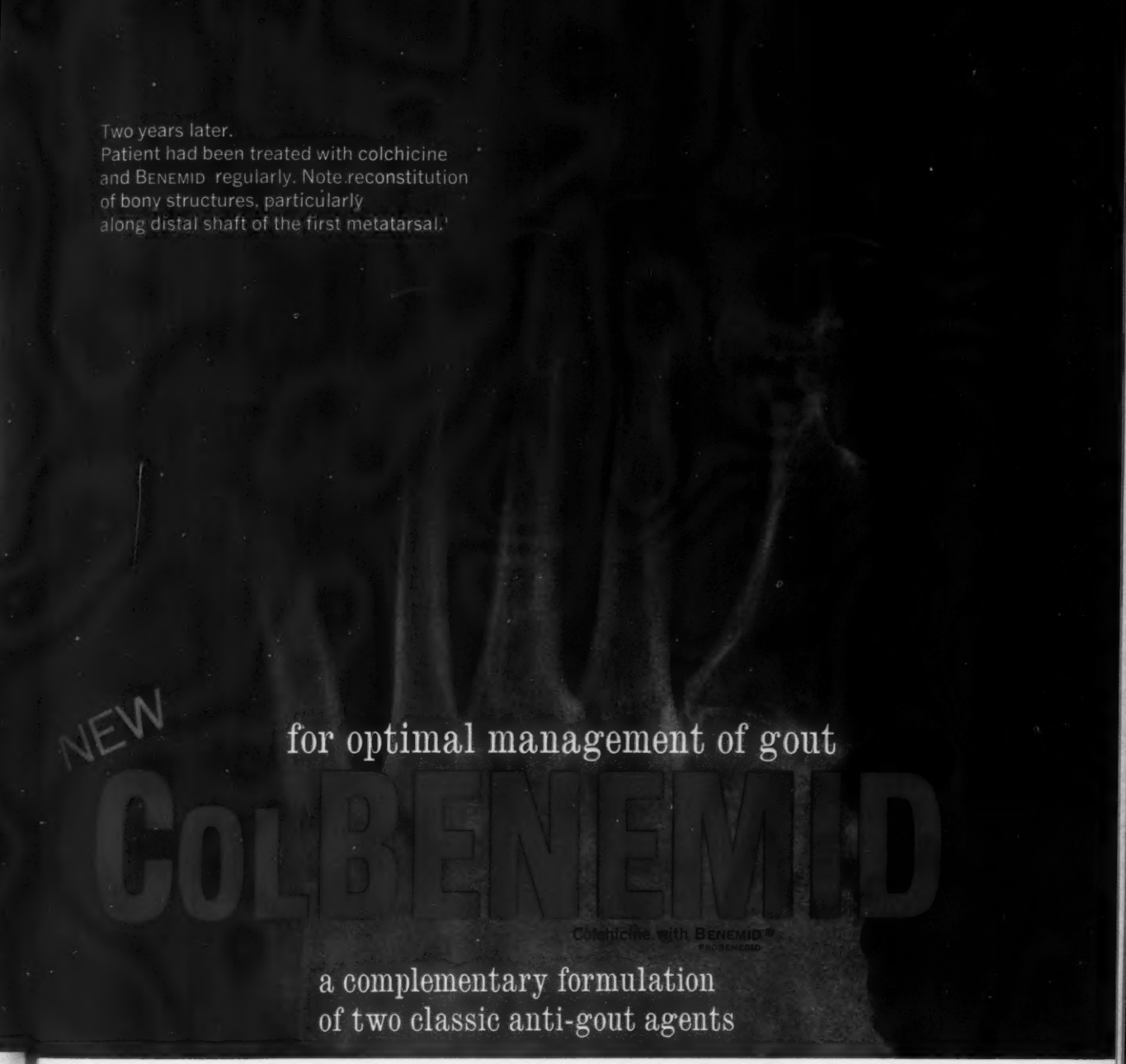
TRADEMARKS: BENTYL®, KOLANTYL®

Merrell THE WM. S. MERRELL COMPANY • Cincinnati, Ohio/St. Thomas, Ontario

Before treatment.
Extensive gouty changes in base of proximal phalanx of great toe and in head and shaft of the first metatarsal.



Effect of colchicine and BENEMID on serum uric acid level and periods of incapacity.[2]


Two years later.
Patient had been treated with colchicine
and BENEMID regularly. Note reconstitution
of bony structures, particularly
along distal shaft of the first metatarsal.[1]

NEW

for optimal management of gout

ColBENEMID*

Colchicine with BENEMID® PROBENECID

a complementary formulation
of two classic anti-gout agents

"Prophylactic management [of gout] embodies the use of the two agents just discussed, namely, colchicine and Benemid. Each one complements the other. Neither one by itself is as effective as a combination.... Since 1950, Benemid has been available and the greater the experience we have with the combination of colchicine and Benemid the greater the reliance we place upon these two drugs."[3]

Composition: Each tablet contains 0.5 mg. colchicine and 0.5 Gm. BENEMID probenecid.

Dosage between acute episodes: Mild, 1 tablet a day; moderate, 1 tablet twice daily; severe, 1 tablet three or more times daily.

Supply: Bottles of 100.

1. Talbott, J. H.: Gout, New York, Grune & Stratton, 1957, pp. 162, 163. 2. Talbott, J. H.: Gouty arthritis, Minn. Med. *42*:1044, Aug. 1959. 3. Talbott, J. H.: Recognition and treatment of gouty arthritis, Current Medical Digest *26*:57, Nov. 1959.

Also available: BENEMID *probenecid, 0.5 Gm. tablets, bottles of 100.*

For additional information,
write Professional Services,
Merck Sharp & Dohme, West Point, Pa.

MSD MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., WEST POINT, PA.

*COLBENEMID AND BENEMID ARE TRADEMARKS OF MERCK & CO., INC.

In chronic and acute diarrhea the most effective symptomatic solution to the dual problem

dual action

Sorboquel®

(polycarbophil-thihexinol methylbromide) *tablets*

"The polycarbophil-thihexinol combination [SORBOQUEL] often alleviated diarrhea after other drugs, including opiates, had been ineffectual."*

fast action **1**

FOR TOO FLUID FECES: Four SORBOQUEL Tablets, the average daily dose, contain 2 Gm. of polycarbophil. This amount of this extraordinary macromolecular water-binding agent has a hydrosorptive capacity of 240 cc.

A 30-year-old male with chronic diarrhea of functional origin, characterized by marked intestinal hypermotility. With SORBOQUEL therapy, the diarrhea was well controlled. This 24-hour film demonstrates combined antimotility action of thihexinol methylbromide and the hydrosorptive action of polycarbophil. (Note the particulate nature of the swollen polycarbophil.)

CONVENIENT TABLET FORM: SIMPLE UNCOMPLICATED DOSAGE SCHEDULE

dosage: For older children and adults, initial dosage of one SORBOQUEL Tablet q.i.d. is usually adequate. SEVERE DIARRHEAS MAY REQUIRE SIX, OR EVEN EIGHT, TABLETS IN DIVIDED DAILY DOSES. (Dosages exceeding six tablets a day should not be employed over prolonged periods.)

side effects: The incidence of side effects at recommended dosage is negligible. (The usual precautions when using parasympatholytic agents should be observed.) COMPLETE INFORMATION REGARDING THE USE OF SORBOQUEL TABLETS IS AVAILABLE ON REQUEST.

supplied: SORBOQUEL Tablets, bottles of 50 and 250. Each tablet contains 0.5 Gm. polycarbophil and 15 mg. thihexinol methylbromide.

*Winkelstein, A.: Am. J. Digestive Dis. 34:524 (Nov.) 1960. **additional bibliography:** Hock, C.W.: Med. Times 88:320 (March) 1960. Hock, C. W.: Am. J. Digestive Dis. (Nov.) 1960. Berkowitz, D.: Am. J. Digestive Dis. (Nov.) 1960. Seneca, H.: Am. J. Digestive Dis. (Nov.) 1960. Gilbert, A.S.; Schwartz, I.R., and Matzner, M. J.: Am. J. Gastroenterol. (Dec.) 1960. Gilbert, S.S.: Am. J. Digestive Dis. (Nov.) 1960. Pimparker, B. D.; Paustian, F. F.; Roth, J. L. A., and Bockus, H. L.: Gastroenterology, to be published. Roth, J. L. A.: Am. J. Digestive Dis. (Nov.) 1960. Grossman, A. J.; Batterman, R. C., and Leifer, P.: J. Am. Geriat. Soc. 5:187 (Feb.) 1957. McHardy, G.; Browne, D.; McHardy, R.; Bodet, C., and Ward, S.: Am. J. Gastroenterol. 24:601 (Dec.) 1955. McHardy, G.: Am. J. Digestive Dis. (Nov.) 1960. Bercovitz, Z. T.: J. Am. Geriat. Soc. 5:940 (Nov.) 1957. Reports to the Medical Department, White Laboratories, Inc.

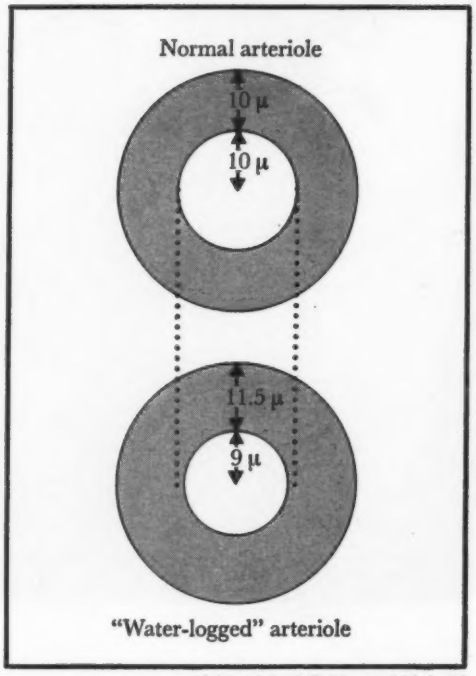
***fast action* 2**

FOR TOO FREQUENT EVACUATIONS:
the superior, yet selective, nonopiate action of thihexinol methylbromide produces prompt and prolonged intestinal motor inhibition. With SORBOQUEL, "the demonstrated inhibition of jejunal motility without a marked delay of gastric emptying is remarkable. In our experience, such selective depression of enteral motor activity has not been produced by other anti-peristaltic drugs."*

WHITE LABORATORIES, INC. · Kenilworth, New Jersey

Why Esidrix® alone often lowers blood pressure satisfactorily

A number of investigators[1–4] have reported that Esidrix alone reduces blood pressure – even in patients without edema. One possible explanation for this antihypertensive effect is the following: Histologic studies of rats show that there is an increased water concentration in hypertensive arterioles which causes swelling of the arteriolar wall and, as a result, narrowing of the lumen and increased flow resistance.[5,6] By depleting excess salt and water from "water-logged" arteriolar walls, Esidrix increases lumen size and significantly decreases flow resistance.



(Adapted from Tobian and Binion[5])

Schematic drawings show dimension of a normal arteriole and a hypothetical "water-logged" arteriole, the wall of which is thickened to about the same degree as the walls of hypertensive arterioles in histologic muscle preparation of rats.[5] The decrease in lumen size in the "water-logged" arteriole would increase flow resistance 54 per cent.[5]

References: 1. Calesnick, B.: Clin. Med. *6*:613 (April) 1959. 2. Vertes, V., and Sopher, M.: J.A.M.A. *170*:1271 (July 11) 1959. 3. Meltzer, L. E., Eichner, L. G., Ural, E., and Kitchell, J. R.: Am. J. Cardiol. *4*:741 (Dec.) 1959. 4. Bryant, J. M., Schvartz, N., Roque, M., Fletcher, L., Fertig, H., and Lauler, D. P.: To be published. 5. Tobian, L., Jr., and Binion, J. T.: Circulation *5*:754 (May) 1952. 6. Goldberger, E.: Am. J. Cardiol. *3*:259 (Feb.) 1959. 7. Dennis, E. W.: Clinical report to CIBA. 8. Borhani, N. O., in Moyer, J. H. (Editor): *Hypertension*, The First Hahnemann Symposium on Hypertensive Disease, W. B. Saunders Company, Philadelphia, 1959, p. 549.

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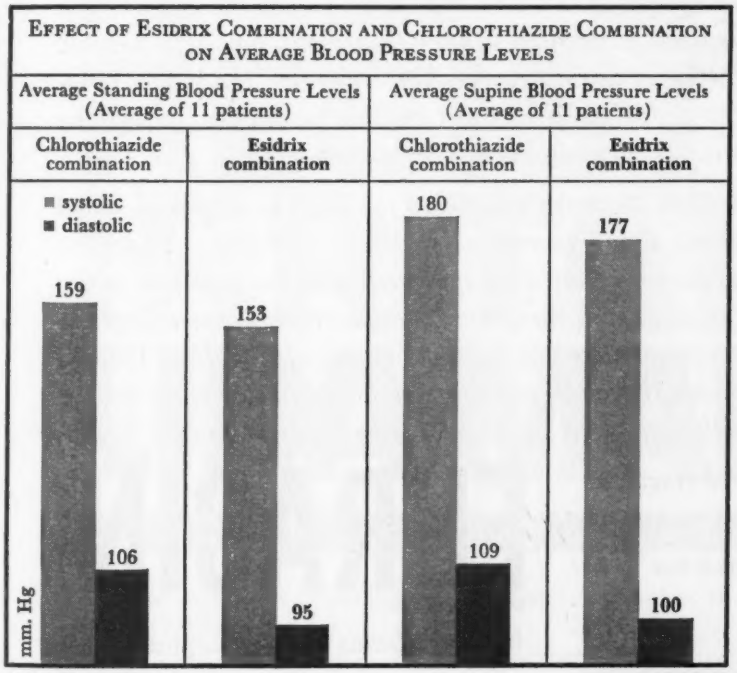
Why Esidrix® improves response to other antihypertensive agents



(Adapted from Dennis[7])

In many hypertensive patients, excess fluid and sodium in the arteriolar environment keep constricted blood vessels from dilating fully in response to antihypertensive therapy. By eliminating and redistributing excess fluid and sodium, Esidrix makes the vasculature more sensitive to other antihypertensive agents, thus enabling blood vessels to dilate to near-normal limits. Esidrix is frequently more effective in this respect than related compounds. For example, substitution of Esidrix for chlorothiazide in antihypertensive regimens often brings blood pressure closer to normotensive levels.[7,8]

CIBA
SUMMIT • NEW JERSEY

Supplied: ESIDRIX *Tablets*, 50 mg. (yellow, scored) and 25 mg. (pink, scored). *Also available:* ESIDRIX-K *Tablets* (white, coated), each containing 25 mg. Esidrix and 500 mg. potassium chloride. *Complete information about Esidrix and Esidrix-K sent on request.*

Antihypertensive and Antihypertensive Potentiator

Esidrix®
(hydrochlorothiazide CIBA)

From the film—"Skin Grafting of Extensive Burns" by Harry R. Grau, M.D., Cleveland, Ohio

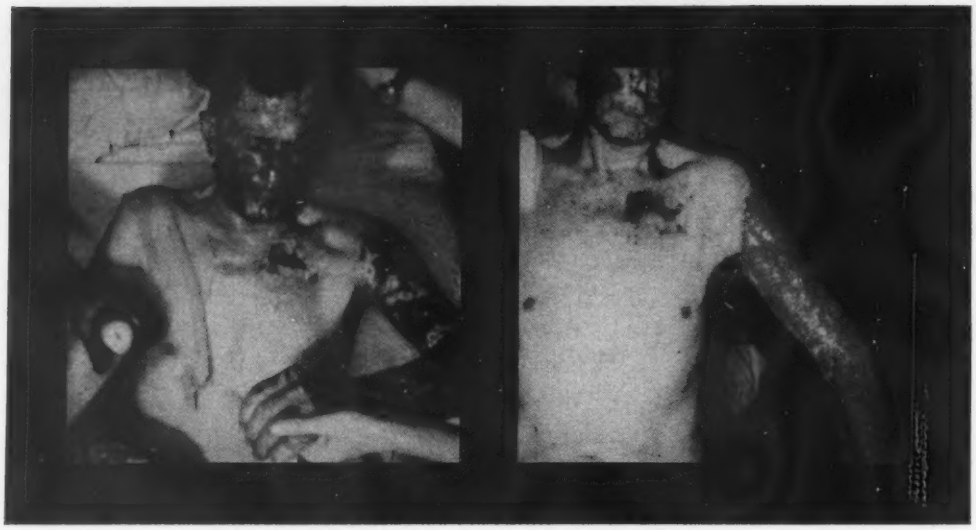


Fig. 1. *68-year-old man with extensive third degree burns caused by gas explosion 2 weeks previously.*
Fig. 2. *Sixteen days after treatment with* FURACIN Soluble Dressing *and debridement, wounds show healthy granulation tissue free from infection and ready for skin grafting.*

Severe burns: fight infection, facilitate healing

Versatile F*URACIN lends itself admirably to burn treatment.* F*URACIN Soluble Dressing is applied directly, or as impregnated gauze under dry or wet pressure dressings.* F*URACIN Solution is sprayed on the burn area (exposure technic); this leaves a moist, flexible antibacterial film.*

In clinical use for more than 13 years and today the most widely prescribed single topical antibacterial, F*URACIN retains undiminished potency against pathogens such as staphylococci that no longer respond adequately to other antimicrobials.* F*URACIN is gentle, nontoxic to regenerating tissue, speeds healing through efficient prophylaxis or prompt control of infection. Unique water-soluble bases provide thorough penetration, lasting activity in wound exudates, without "sealing" the lesion or macerating surrounding tissue.*

the broad-spectrum
bactericide exclusively
for topical use

FURACIN®

brand of nitrofurazone

in dosage forms for every topical need

Soluble Dressing / Soluble Powder
Solution / Cream / HC Cream
(with hydrocortisone) / Vaginal
Suppositories / Inserts / FURESTROL®
Suppositories (with diethylstilbestrol)
Special Formulations for Eye, Ear, Nose

EATON LABORATORIES
Division of The Norwich Pharmacal Company
NORWICH, NEW YORK

A new concept

STOP ITCHING HELP SKIN RESIST IRRITATION LIDA-MANTLE™

- *Relieves itching and topical pain within minutes . . ."superior to any existing local anesthetic."*[1]
- *Not a 'caine' or a 'quinoline'. Virtually non-irritating, non-allergenic, non-toxic . . . over a million uses without a single verified case of sensitization.*[2]
- *The exclusive* ACID MANTLE *vehicle soothes sensitive skin, speeds healing and wards off recurrences by rebuilding the protective barrier of acidity that helps skin resist inflammation, irritation and infection.*

Available as Creme in ½ oz. and 1 oz. tubes.
3% Xylocaine* HCl (brand of lidocaine hydrochloride) in the exclusive ACID MANTLE† vehicle.
***Reg. T.M. Astra Pharmaceutical Products, Inc. U.S. Pat. No. 2,441,498. †Reg. T.M. Dome Chemicals Inc.**
1. Crawford, O. B.: Anesthesiology 14:278, 1953. 2. Wiedling, S.: Xylocaine, The Pharmacological Basis For its Clinical Use, Stockholm, Almquist and Wiknell, 1959.

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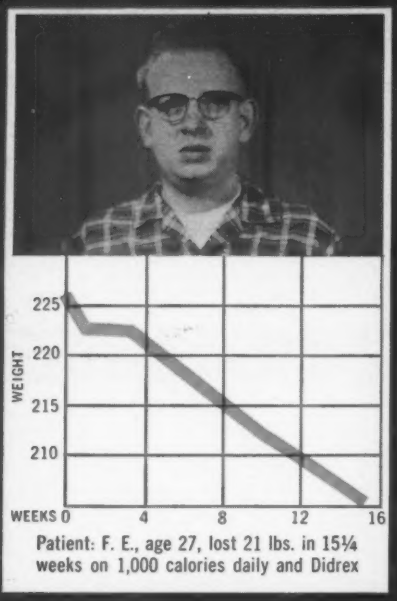
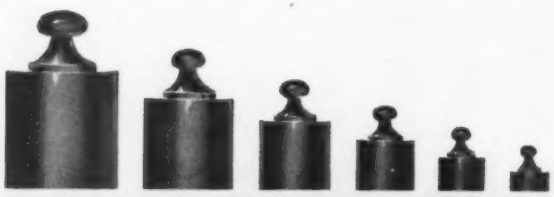


Patient: F. E., age 27, lost 21 lbs. in 15¼ weeks on 1,000 calories daily and Didrex

Patient: H. H., age 37, lost 14.5 lbs. in 9½ weeks on 1,000 calories daily and Didrex

Patient: A. P., age 34, lost 18.5 lbs. in 11½ weeks on 1,000 calories daily and Didrex

UPJOHN ANNOUNCES

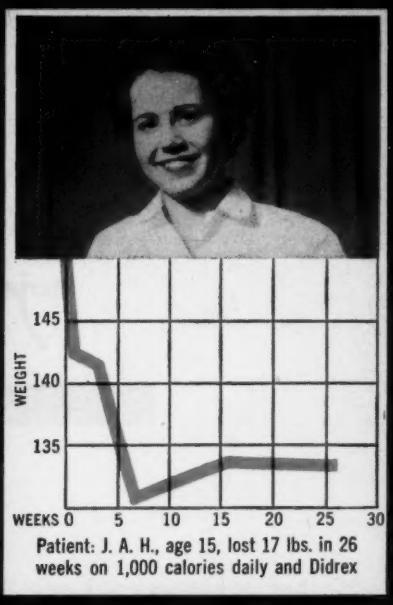


HELPS TAKE WEIGHT OFF . . PERSISTENTLY

Didrex*

Patient: L. M., age 29, lost 20.5 lbs. in 9½ weeks on 1,000 calories daily and Didrex

Patient: P. M., age 41, lost 10.5 lbs. in 7¼ weeks on 1,000 calories daily and Didrex



Patient: J. A. H., age 15, lost 17 lbs. in 26 weeks on 1,000 calories daily and Didrex

in obesity management

PERSISTENT WEIGHT LOSS WEEK AFTER WEEK

Put it to your patient this way: The basic therapeutic objective of obesity management is to change dietary habits built over months or years of weight accumulation. This takes time and will. Consider Didrex, the new Upjohn appetite suppressant. Happily, it elevates mood which makes dieting more acceptable. More important, it works: "persistent significant weight loss" in patients followed for as long as 20 weeks. Added to your favorite reducing regimen, ½ to 1 Didrex tablet one to three times daily is usually adequate to preclude the "weight plateau" that so often discourages dieters after a few weeks. Available as 50 mg. tablets in bottles of 100. **Upjohn**

The Upjohn Company, Kalamazoo, Michigan

BRIEF BASIC INFORMATION

Description: Didrex is the Upjohn brand of benzphetamine hydrochloride [(+)-N-benzyl-N,α-dimethyl-phenethylamine hydrochloride]. A sympathomimetic compound with marked anorectic action and relatively little stimulating effect on the CNS or cardiovascular system.

Indications: Control of obesity.

Contraindications: None known to date. However, use with caution in moderate or severe hypertension, thyrotoxicosis, acute coronary disease, or cardiac decompensation.

Dosage: Initiate appetite control with ½ or 1 tablet (25 to 50 mg.) in midmorning for several days. Then adjust dosage to suit each patient's need to a maximum of 3 tablets daily (150 mg.).

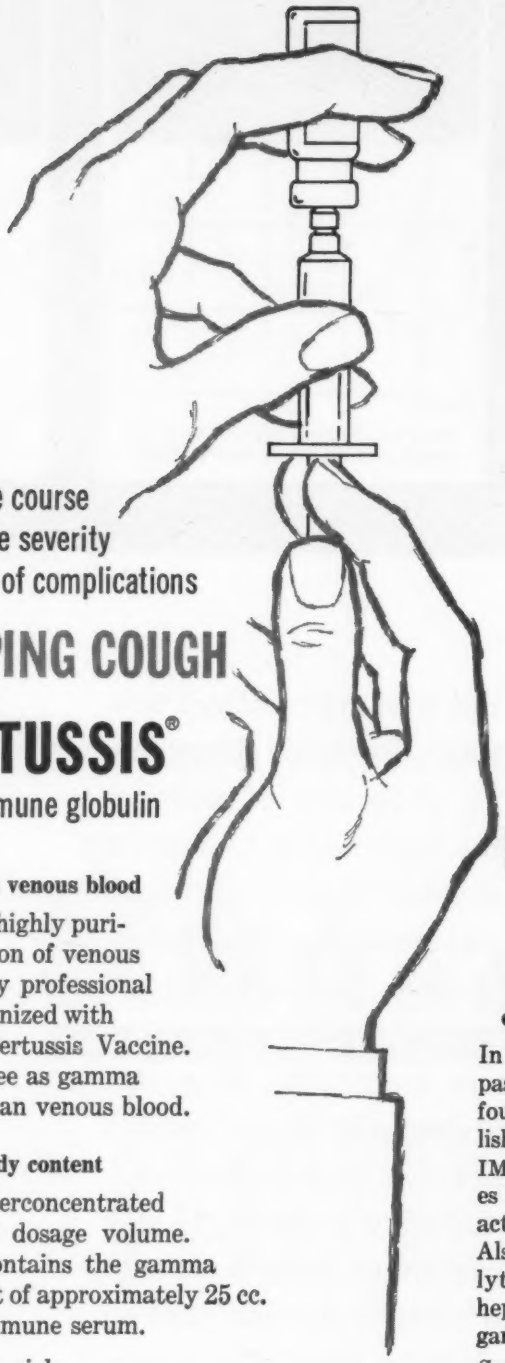
Side Effects: No effects on blood, urine, renal or hepatic functions have been noted. Minimal side effects have been observed occasionally: dry mouth, insomnia, nausea, palpitations and nervousness.

Supplied: 50 mg., press-coated, scored tablets, in bottles of 100.

Photos and case histories courtesy Drs. Alan S. Rubenstein, P. V. Dilts and William Conroy, Springfield, Illinois

*Trademark – brand of benzphetamine hydrochloride, UPJOHN

References: 1. Stough, A. R.: Weight loss without diet worry: use of benzphetamine hydrochloride (Didrex®). Journal of the Oklahoma State Medical Association, 53:760-767 (November) 1960. 2. Oster, H., and Medlar, R.: A clinical pharmacologic study of benzphetamine (Didrex®), a new appetite suppressant. Arizona Medicine, 17:398-404 (July) 1960. 3. Simkin, B., and Wallace, L.: A controlled clinical trial of benzphetamine (Didrex®). Current Therapeutic Research, 2:33-38 (February) 1960.



to shorten the course
lessen the severity
reduce the rate of complications

IN WHOOPING COUGH

HYPERTUSSIS®

pertussis immune globulin

derived from human venous blood

Hypertussis is the highly purified globulin fraction of venous blood from healthy professional donors hyperimmunized with Cutter Phase I Pertussis Vaccine. It is as reaction-free as gamma globulin from human venous blood.

high immune antibody content

Hypertussis is superconcentrated to permit smaller dosage volume. A 1¼ cc. dose contains the gamma globulin equivalent of approximately 25 cc. of human hyperimmune serum.

Supplied in 1¼ cc. vials.

for prevention
or modification

OF MEASLES

Polio IMMUNE GLOBULIN

gamma globulin

derived from human blood

In measles prevention effective passive immunity of three to four weeks duration is established. In modification, Polio IMMUNE GLOBULIN reduces severity while allowing full active immunity to develop. Also for prevention of paralytic poliomyelitis, infectious hepatitis, treatment of hypogammaglobulinemia.

Supplied in 2 cc. and 10 cc. vials.

For further information see PDR page 576,
Ask Your Cutter Man
or write to Dept. I-9C

CUTTER LABORATORIES · Berkeley, California

Leaders in Human Blood Fractions Research

The hour of decision

HOBERT C. MOORE, D.O., Bay City, Michigan*

We meet here today in memory of Dr. Andrew Taylor Still, whose new concept of healing not only identified him with the needs of his time, but also made a unique contribution to our day. Consequently his works made another chapter in the book of medicine.

Recorded in this book is the story of medicine which had its origin in the dim shadows of the remote past. From these shadows emerged the story as we know it today—one reflecting the kinship of medicine and man through the ages; for we all agree that wherever medicine is practiced, it is identified with humanity, physically and spiritually, and through its history runs a constant quest for truth.

Strangely enough, and perhaps because of its very personal nature, medicine did not in early times keep step with the development of religions, the philosophies, and the arts. Most of the world's great religions had been founded by 612 A.D., and even at this date, some were very old. It is true that superstitious practices were eventually associated with each, but that was not so much the fault of religious ethics as it was of the fears that haunted the mind of man from the beginning of time. Both philosophy and art reached such a high level of sophistication during the Classic Age of Greece that even today we pause to admire. In comparison medicine was still babbling in its cradle.

Over the centuries physicians learned through experience that there was a definite reaction of the human system to drugs and chemical compounds. Therefore, they were relied upon as remedies even though little was known of their physiologic effect and nothing was known of the cause and cure of virulent diseases. Treatment was completely empirical. Medicine itself existed in a rarefied air and for centuries proudly considered itself an art. The term "the art of medicine" was like a sweet pellet to the tongue. To us today, it seems that medicine was in a sad state, but fortunately the victims of disease expected no more than the physicians knew.

Even though scientists made the initial break through this static age of medicine in the third part of the nineteenth century, it was not until the twentieth century that medicine was to become a true science, albeit one to be practiced with art.

An so the ages pass. Time is like the ebb and flow of the tide. At times the swell brings in a peculiar assortment of folklore, superstition, and offbeat ethics, with only a spark of truth. Then on the crest of an insurgent wave is borne a truth so brilliant that it helps lighten all time to come.

In the framework of medicine, and osteopathic medicine is truly within that framework, all progress has been made through investigating and interpreting findings to determine whether they are the truth, then offering the proved results to humanity. Humanity has not always wanted the truth. In fact man's record in this respect has been quite bad. Most schoolboys know the fate of numerous men of genius whose knowledge and prophetic sense of history made them suspect during their time, while the truths they offered were thrown in the dust.

I am reminded here of my school days when it was the purpose of grammar books to prod our morals as well as our minds. One of the gems to be diagrammed was, "Truth, crushed to earth, shall rise again." Truth is like that. It can appear and disappear repeatedly, but it will eventually reappear under favorable conditions, where it will identify itself with man and be accepted.

You ask me now—"And what is truth?" Truth is something established in the basic plan of the universe, be it physical or spiritual. Absolute truth is, was, and always will be. It will never change and is there for us to find. Truth is not a nebulous thing. It is only the path to truth that becomes cloudy. Our thinking is faulty and, like a poor geometry student,

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we fail because we start our search with the wrong premise and thus cloud our path to the correct conclusion.

A classic example of this is that of Ptolemy who, in the second century A.D., formulated and laid down the theory that stated that the earth was the center or fixed point of the universe around which the heavenly bodies moved. For about 1,400 years this was considered absolute truth and was not questioned. Within the limited scope of investigation of the second century, it seemed like the truth. The populace was content with the theory; the church was satisfied it was not conjured up from something evil; and the theory was chalked up along with Ptolemy's other brilliant successes.

Not until the sixteenth century was this false theory challenged by one Copernicus, who stated that the planets revolve around the sun, and that the turning of the earth on its axis accounts for the apparent rising and setting of the stars. Even though there were invalid arguments in his complete treatise,† the truths discovered by Copernicus set the premise for modern astronomy.

Thus as each age struggled to identify itself with those who sought true knowledge, so must we seek true knowledge concerning our identity to present humanity. It is not easy today. There are too many intangibles.

The belligerent state of the universe is disturbing the entire pattern of civilization as we have known it. Political and social revolutions are sending out convulsive shocks that cause the world to tremble. It is being felt from the top levels of the world to the back alleys of the city.

Since we are destined to serve these troubled times, our first duty, then, is to get a grasp of today's events. Physicians are hard-pressed people who, at the end of day, have precious little time left to investigate and evaluate fast-moving world affairs, much less do anything about them. The latter tasks we often leave to the "do-gooders."

Nevertheless, if we make any claim to being scientists, it is most essential that we find time, not only to make a keen observation of the world, but to sift and evaluate events with scientific orderliness. We must investigate cause and effect. We who have been nurtured in a comfortable democracy must learn the reasons why others behave as they do. It is not enough that we know democracy. We must have a working knowledge of what others believe. Beliefs form social plan and action which can revolutionize governments and change the course of history. My college speech instructor used to tell his classes that Cicero of old always studied his adversary's case more intensely than he did his own. So must we study contemporary thought, for only with the complete knowledge of it can we arrive at the truth of cause and effect in the world today and thus establish a premise from which to work.

What has all this to do with you and me? Have you taken time recently to have a good look at the fast-changing map of the world? Our United States looks alarmingly small compared with the whole vast expanse. England, our strongest democratic ally, is a mere speck on the face of the universe. Do some computing, as I did, and you will discover that all democracies together total only one third of the whole; communism claims about one third; while the remaining one third does not know which way to turn. One hears repeatedly by radio and television that 50 per cent of all the people in the world go to bed hungry every night, and as many have no opportunity for a basic education.

I've heard it said that statistics leave people cold unless they touch the pocketbook; yet if facts can show the basic age-old yearning for the fulfillment of humanity, I believe they will spring to life in the hearts of our people.

It is generally known that as the rice bowl is filled, so goes the east. The Asians say it is easy to be a democracy on a full stomach. A similar thought is echoed in the book *The Devil's Advocate*, by Morris L. West. When referring to the abject poverty in Italy following World War II, he says, "Hunger has no morals and no loyalty." How true history has shown this to be. Starvation wedded to appalling illiteracy breeds the world's bitterly disillusioned offspring who put themselves out for adoption to the highest bidder. The bidding is now in process on the world's market.

Urgency marks the present. In all of history there has been nothing equal to the insidious battle communism is waging to capture the minds of all men. To the present, it has achieved nearly all its goals. Its invasion has almost circled the earth, even to our own doorstep. Should the circle be closed, the tight ring could strangle truth and we could revert again to the Dark Ages. Then if there should be a chance for the scientist—and scientists seem to be favorite sons—it would have to be a science without a soul; for when was a Communist ever concerned with a soul? If a courageous mind should utter an independent thought that inconvenienced those in power, that mind could be crushed forever. You recall the late Boris Pasternak, the author of *Doctor Zhivago*, that recognized masterpiece for which the author won the Nobel prize in 1958. Pasternak was not allowed to accept the prize. Even though he chose to remain in his native land, until his death in 1960 he lived in ostracism. Copernicus, in his day, did not dare to publish his treatise for 35 years because he would have been charged with heresy. When he finally published it, he compromised his integrity by entitling it "Hypothesis" in order to pacify the Church. Later, when Galileo demonstrated the truth of the Copernican theory with the telescope, he was condemned for heresy by the Inquisition.

Today history is repeating itself. Make no mistake, my friends, the world is in the midst of another inquisition. The facts are before us. If in apathy or complacency we ignore them, future generations will marvel at our stupidity.

So, in these bewildering times, it is not only nec-

†*De Revolutionibus Orbium Coelestium* (1543).

essary for us to observe world events, but to observe ourselves with honest detachment. In our weakness and strength we must know who we are and what we are to determine the worth of our identity to the times.

Now only three short generations removed from its founding, the osteopathic school of medicine, or the "osteopathic movement," as the late Dr. Raymond Keesecker was pleased to call it, has had a tremendous and rapid growth in all fields of medicine. Its growth has amazed educators in high places. Doors once barred are now opened to us, and from many quarters there are beckoning nods. It is an exhilarating time; yet one that more than ever requires of us a rigid discipline and a thorough approach to self-analysis. In a former address[1] before this body, I stated that because our history sprang from the people, so much greater is our responsibility to the people. I would add here that because a free-thinking people believed and could openly express that this new theory of healing had something of value to help mankind, our profession grew in stature. No one is prouder than I of the broad strides we are making in contemporary medicine; yet in our haste to advance, it would affront the very people who created us if somehow along the way we lost our heritage.

This would indeed be a sad day, too, for those courageous physicians who have possessed this heritage with honor, and used it with pride in their life's work. There is a touch of greatness in their integrity. In speaking of the meaning of a man's life work, Ivo Andrić, in *The Bridge on the Drina*, says very aptly, "All of us die once, whereas great men die twice—once when they leave this world, and a second time when their life work disappears."

A trust has been handed to us. Let it not be said of us that we renounced it. It has survived heartache and persecution; it has known despair and hope, but always it has contributed to the alleviation of human suffering. This is not the sort of thing one barters away for a guilded bauble: This is our heritage. Our records confirm its worth. In this hour of decision it needs to be taken out and dusted off. It needs to be used and tested by all the technics we know today. We must be willing to work and fight for our beliefs, and we must demonstrate and clinch all truths concerning our premise so that the conclusions will be satisfactory to the most exacting scientist. This we must be willing to do, else as a profession we fade into the gray mists of medical history.

These are times of implacable decisions. We must learn to cope with those groups who, because it is expedient, desire to exploit us. We must beware of pressure groups of opposing thought who like sponges act to absorb us and deprive us of independent thinking. In *A Place for Independent Thinking*, John Stuart Mills says:

> He who lets the world, or his own portion of it, choose his plan of life for him has no need of any other faculty than the ape-like one of imitation. He, on the other hand, who chooses his plan for himself, employs all his faculties—reasoning, foresight, activity, discrimination, resolution, self-control. We wish not automatons, but living, originating men and women.

If we are to earn a permanent chapter in the story of medicine, this organization with all its affiliates must have an integrity of purpose that nothing can shake. This lesson should be made the vibrant chord that binds our profession together

It is so very important that we hold on to independent thinking; by imitating, we so frequently miss our potential and thus fall far short of greatness.

Yes, we have a precious trust, and this organization must assume complete responsibility for protecting it. This organization, I believe, does not intend to sell it at any price. It only intends to establish for all time the intrinsic value of its trust. When interested parties finally recognize its worth, they will feel no need for barter or compromise, for they will then receive it as a gift freely given with dignity.

If we are to earn a permanent chapter in the story of medicine—and I have never been more serious than now—this organization, with all its affiliates, must have an integrity of purpose that nothing can shake. This lesson should be learned in our colleges, taught to our interns, learned by precept and example, and made the vibrant chord that binds our profession together.

To accomplish this we must strive to build a harmonious structure of all our varied and component parts. In order to have a foundation that is solid we must begin to build from our smallest organization to our largest, and cut away structural flaws. Perhaps the most insidious flaw is that feeling of professional inferiority which like a cancer eats its way through our very being and deprives us of our best constructive thinking. This must be cut away. A proud, progressive profession has no time to indulge in immaturity. In our structure, too, we face the complexities of a young, fast-developing profession. We have regional strongholds where professional service can be maintained at a high level, and low spots where courageous, dedicated men still pioneer for us under truly difficult conditions. Just as long as we have those low spots, we have the weak spots. To bolster them we must encircle them with our concern and nourish their growth with the vitality of the strong.

Then, again, though we have a growing and justifiable pride in our special skills, there should be no

place in our structure for a disturbing medical aristocracy or caste system of higher or lower gradations of service within our ranks. Harmony of structure strives to claim the dignity of each skill and its importance within the entire scope of service. This is concisely illustrated by a story I heard of the little daughter of the late Senator Robert Taft. The little girl, when required to write a composition for a class in school, penned the following:

"My grandfather was a president.
My father is a senator.
I am a Brownie."

So often from the mouths of babes fall priceless pearls of wisdom.

It is not my purpose at this point to deal in scientific or factual specifics, but to dwell on our common purpose, our attitudes, and the very moral fiber of our profession, without which our science would be a very pallid thing. Thus we are compelled to maintain a strong, unified body of our own creation. Our goal is not to be competitors within the framework of medicine; rather it is to release our own dynamic power to make effective our service for universal good. This must be our salvation.

Time is a relentless master. It obliges us to anticipate and to meet the needs of the hour before government dictates our actions. Contemporary medicine today is confronted with a vocal evolutionary society. It asks, "Are you qualified?" "Do you have a plan?" "Will you cooperate?" Rumblings of this are heard in our own government in Washington. Legislators have lamented that not one health agency in the United States has come up with an adequate medical care health program; hence the legislators are proposing their own. Health agencies may agree or disagree with the plan, but the fact remains that the people made the first step.

Our strength has been our acceptance by the people. Our unpardonable weakness would be to lose communication with the people. Moreover, our internal professional complexities should be made incidental to the main obligation of keeping our ear tuned to the sounds of the people. These sounds with their undertones are legion. They emanate from the Salvation Army barracks to the social service agencies; they murmur in the clubroom and echo in the halls of government. It will be an astute organization that can establish lines of communication to related agencies in order to bring the lay and professional worlds together. This is mandatory for us if we want to be understood and to have the public satisfied.

The future will have tremendous claims on us, and we must be prepared to meet them. With our knowledge of world revolutions that have discarded ideals for a crust of bread, it will take all the understanding and scientific knowledge that we possess to cope with man's hopelessness. The way will be opened for us if we are prepared.

So, we must be about our business in search for truth; for in the basic truths of the universe, all disease must certainly have cures which we have not yet found. As part of the free world we must utilize all the untapped power of our keenest minds to accelerate our research program. This will require not only harmony within our ranks, but ample financial aid to continue the program. Last fall I tuned in to the "Today" show just as Dave Garroway said that a member of the Rockefeller Institute reported that the cure for any disease in the United States could be bought. This is a potent yet ironic thought when one considers ours the richest nation in the world.

Lack of funds has always impeded the progress of research. People in general must feel a vital need for something before they do anything about it. However, there have always been those few whose vision sees beyond the throng. Through these benefactors of humanity the osteopathic profession has in the past received numerous gifts. Recently a number of substantial gifts have been received. These major grants have broken through the iron curtain of medicine and cleared the way for other grants to our colleges. They are expressions of the faith intelligent people have in the future of the osteopathic profession. Matched with our own confidence and continued financial support, we should be inspired to reach beyond anything we ever dreamed. We must continue to search and evaluate knowledge and present to the world findings that will justify the faith people have placed in us.

We are comparatively young and, in our search for knowledge, we must guard against the youthful impulses of impatience and haste. Knowledge is revealed in fragments, and we must fit these fragments together in our time. We are shown knowledge only in proportion to our mental development so that in the entire plan we are part of the whole. The acquiring of knowledge is well expressed in *The Princess*, where Tennyson says:

> And all creation is one act at once,
> The birth of light; but we that are not all,
> As parts, can see but parts, now this, now that,
> And live, perforce, from thought to thought, and make
> One act a phantom of succession. Thus
> Our weakness somehow shapes the shadow, Time;
> But in the shadow will we work, and mould
> The woman to the fuller day.

And so in our ceaseless search for knowledge we must humbly align ourselves with the Creator of all things to find new truths to transcend all we know today. Perhaps through this channel we will not only justify our professional existence but also find an answer to the relief of human despair.

Thus with spiritual and intellectual fortitude we must write our own story in the book of medicine. May it read to have attained greatness by standing the test of time. Then when our sons shall turn back the pages and follow our rugged path through its chapters, they will proudly say, "Our fathers walked that way."

1. Moore, H. C.: Progress of a profession. J. Am. Osteop. A. 55:723-725, Aug. 1956.

Clinical investigation of phenethylbiguanide (DBI)

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This study on the clinical application of phenethylbiguanide (DBI)† has extended over a period of approximately 12 months. There has been no attempt to apply the drug to any particular type of diabetic problem. Rather, it was decided to determine its value in a general, random diabetic population; I feel that the following series of cases is representative of the problems seen daily in office practice. All but a few of those investigated were outpatients, and no attempt was made to investigate intricate metabolic effects of the drug. It was not used in any patient in whom a serious complication existed.

The drug was applied to four categories of patients. The first group consisted of patients who were newly diagnosed and previously untreated, who were treated with diet and phenethylbiguanide. The latter was the only agent used for purposes of control other than diet and prescribed exercise. More than a moderate degree of acetonuria was considered a contraindication for drug therapy. Several patients in this group needed drug therapy only until they realized full benefit from caloric and carbohydrate restriction, permitting an improvement in their own insulogenic response. Nevertheless, they were symptomatic and deserving of therapy which would bring about a hypoglycemic effect.

A second category of patients consisted of those in whom it seemed desirable to reduce the insulin dosage. These were the so-called brittle or labile diabetics. In order to achieve the desired degree of diabetic control, it had been necessary either to use two injections of insulin daily or to increase exogenous insulin to a point that resulted in severe insulin reactions or an excessive intake of food with undesirable weight gain.

The third group consisted of patients in whom it was desirable, if possible, to completely replace insulin with phenethylbiguanide. Indications in this category consisted of senility and feebleness; poor eyesight, making it impossible to draw an accurate amount of insulin into the syringe; and one patient, a physician, whose excessive intake of calories might have been due to the use of exogenous insulin, and it was decided to try to assist her in adhering more closely to her dietary prescription by replacing insulin with phenethylbiguanide.

The fourth category of patients can hardly be called a category because it contained only one individual; this was a patient with secondary tolbutamide failure, in whom the use of phenethylbiguanide was successful.

No case is reported in which control could have been accomplished by dietotherapy alone. This statement should be qualified because there were those newly diagnosed diabetic patients who deserved symptomatic control during the initial period following diagnosis. If it became apparent that a patient would not adhere to a diet, his uncooperativeness was not condoned by permitting him to continue on drug therapy. It should be emphasized that the drug was used for only one purpose; that was the improvement of the clinical state of the patient.

The following criteria were used for determining adequacy of diabetic control:

1. Freedom of symptoms of diabetes mellitus
2. General sense of well-being without undue fatigability upon physical activity
3. Less than 5 per cent excretion of glucose in 24 hours
4. Postprandial blood sugars below 175 mg. per 100 cc.

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5. Maintenance of ideal body weight and normal weight gain in the juvenile diabetic
6. Freedom of insulin reactions.

Methods and materials

All patients were seen at at least 6-week intervals, and their weight, 24-hour glycosuria, and postprandial blood sugars (taken 2½ hours after breakfast or the noon meal) were recorded. When collecting the 24-hour urine specimen the patients were instructed to test the urine for sugar and acetone fractionally fasting, at 11:00 a.m., 4:00 p.m., and at bedtime. All specimens were examined for albuminuria, hematuria, and crystalluria. Hematologic investigations and tests of liver function were not carried out unless there were specific indications for them. Blood sugar determinations in this study were done by the Dextrotest method.

Case reports

Case 1 • A 7-year-old girl, of asthenic build, who weighed 45 pounds, had developed a symptomatic juvenile diabetes of unknown duration. There was no previous history of acidosis or coma. The disorder presented stable characteristics while she was in the hospital on a prescribed diet. Treatment during hospitalization consisted of dietary therapy and 12 units of Lente insulin; this regimen was followed for the total period of 5 days. She was then treated on a daily dosage of 87.5 mg. of DBI over a period of 7 months, in conjunction with a prescribed diet. She was well controlled, aglycosuric, and normoglycemic for that 7-month period. She was then readmitted to the hospital because of weight loss, glycosuria, and acetonuria. She was given a diet containing 125 grams of carbohydrate, and DBI was reinstituted; there was no evidence of glycosuria, but she developed acetonuria and vomiting. The DBI was withdrawn because of the vomiting, and she was treated with 12 units of Lente insulin. After several days of aglycosuria and normoglycemia, DBI was again reinstituted. There was no response to DBI, and the maximum dose of 150 mg. per day in four divided doses was given. There was no evidence of gastrointestinal intolerance, but glycosuria without acetonuria persisted. As further therapy with DBI seemed inadvisable, she was discharged from the hospital on a daily dose of 12 units of Lente insulin with chemical control similar to that produced by DBI, but with a gain in weight and general clinical improvement.

Case 2 • An 11-year-old boy of heavy build, who weighed 126 pounds and was 60 inches tall, developed juvenile growth-onset diabetes, which was symptomatic and of recent origin. There was no previous history of acidosis or coma. He had received no therapy prior to the institution of DBI, and he was treated on a daily dose of 75 mg. for a total of 10 days. In addition, he was given 150 grams of carbohydrate daily, which was distributed equally between the three meals. This resulted in a satisfactory control of his diabetes.

Case 3 • A 10-year-old boy of medium build, who weighed 102 pounds and was 60 inches tall, developed juvenile growth-onset diabetes of unknown duration. There was no previous history of acidosis or coma. He had not received any previous therapy for the diabetes. At this writing he has been treated with DBI, 62.5 mg. daily, for a period of 1 month. The effect of blood sugar lowering is very gratifying, and all symptoms have completely disappeared.

Case 4 • A 51-year-old woman of heavy build, who weighed 175.5 pounds and was 61 inches tall, developed a symptomatic stable diabetes of recent origin. There was no past history of acidosis or coma. She was obviously in need of weight loss, and dietary treatment was attempted for a period of 3 weeks. She was then treated with a daily dosage of 75 mg. of DBI; her response was excellent, and at the present time she is asymptomatic. It is likely that the drug therapy will be discontinued when the patient's weight is reduced to a satisfactory level, and when her own insulogenic response makes itself apparent. There was no evidence of side reactions to DBI therapy.

Case 5 • A man, aged 64, of medium body build, who weighed 150 pounds and was 65 inches tall, developed symptomatic adult-type diabetes of recent onset. There was no previous history of acidosis or coma. He had not received any other form of therapy before treatment with DBI. In addition to the diabetes the patient had a suspected cystic disease of the kidney for which surgical treatment was contemplated. He was treated with a daily dose of 75 mg. of DBI for a period of 15 days. The diabetic state was mild, and it was hoped that carbohydrate utilization might be improved with the use of DBI. The dosage was probably excessive, as the patient developed gastric intolerance. Surgical exploration may reveal that the diabetes is of a secondary type.

Case 6 • A 44-year-old man of heavy build, who weighed 200 pounds and was 71 inches tall, had in recent months developed a symptomatic adult form of diabetes for which he had received no previous therapy. There was no past history of acidosis or coma. His presenting symptoms were blurred vision, polydipsia, and polyuria. The family physician diagnosed diabetes mellitus because of the findings of glycosuria and hyperglycemia. He was treated with a prescribed diet and 100 mg. of DBI daily. This resulted in weight loss and control of the glycosuria and hyperglycemia.

Approximately 4 months later he complained of anorexia, nausea, and vomiting which was thought to be due to DBI intolerance. He then developed jaundice and ketoacidosis, and he was treated with parenteral feedings and insulin. The serum bilirubin and alkaline phosphatase were raised, and 2 weeks later he developed anemia and leukocytosis. As the

patient insisted on leaving the hospital, he was permitted to return home. The jaundice had diminished in intensity, and there was a drop in the alkaline phosphatase. It was felt that the hepatitis was improving, and it was concluded that the condition was a toxic effect of DBI therapy.

Five days later, while at home, he deteriorated suddenly and was readmitted to the hospital with severe jaundice and further depression of the liver function. It was then considered that the patient had developed acute yellow atrophy following hepatic damage caused by DBI.

He was transferred to the Veterans Administration Hospital where he was observed, and x-ray studies of the gastrointestinal tract were performed. As the diagnosis was in doubt, he was subjected to an exploratory laparotomy. Because of gross deterioration of the patient's clinical status, the laparotomy was unsuccessful, and he died within a few days. Autopsy revealed carcinoma of the head of the pancreas. It became obvious that the clinical condition was not caused by DBI; on the contrary, this agent controlled the diabetes mellitus which was secondary to pancreatic carcinomatous involvement.

Case 7 • A 53-year-old woman of medium build, who weighed 115 pounds and was 62 inches tall, developed adult symptomatic type of diabetes 3 months before treatment began. She had had no acidosis or coma. However, there was a history of myocardial infarction. She received a daily dosage of 50 mg. of DBI for a period of 3 months, concomitant medication consisting of Warfarin sodium and meprobamate. The diabetes responded well to DBI therapy, increased physical activity, and adherence to the prescribed diet; at the end of 3 months, it was unnecessary for her to continue with the drug.

Case 8 • A 54-year-old woman of heavy body build, who weighed 158 pounds and was 64 inches tall, developed symptomatic diabetes at age 51. There was no past history of acidosis or coma. The diabetes had originally been controlled for a short while with carbutamide, but this medication was withdrawn by her physician as he felt that she could be controlled solely by dietotherapy. This proved unsuccessful because of a persistence of symptoms of polyuria, polydipsia, and weakness. She was then treated with DBI, 112.5 mg. daily, and she has continued on this treatment for 11 months. In addition, she received multiple vitamin supplements. This resulted in excellent control of her diabetes and complete abatement of symptoms.

Case 9 • A 75-year-old man of medium build, who weighed 162½ pounds and was 69 inches tall, developed symptomatic adult diabetes of unknown duration. There was no history of acidosis or coma. He had received no previous therapy for the diabetes. He also suffered from arteriosclerotic heart disease with atrial fibrillation and congestive heart failure, and he was receiving digitoxin for control of the congestive cardiac failure. He was treated with a daily dose of 50 mg. of DBI for a period of 1 month, and as his response to this therapy resulted in improved carbohydrate assimilation, the drug was discontinued and the control of the diabetes was successfully maintained on dietary prescription.

In my experience, use of the oral hypoglycemic agents has been of great benefit and a source of comfort to elderly diabetic patients who, because of dimness of vision, feebleness, tremors of parkinsonism, paresis of cerebral vascular disease, and so forth, have difficulty in accurately measuring the daily dose of insulin

Case 10 • A 54-year-old woman of medium build, who weighed 120 pounds and was 60 inches tall, developed a symptomatic adult-type diabetes at age 49. She was prone to severe insulin reactions. She was being treated for essential hypertension with Reserpine. There was no past history of acidosis or coma. For the past 4 years she had received 18 units of Lente insulin in combination with a diet (which contained 150 grams of carbohydrate) but symptoms were inadequately controlled; an increase in insulin dosage, however, produced severe insulin reactions. For this reason, the insulin dosage was maintained at 18 units of Lente insulin and the patient was given 87.5 mg. of DBI per day to supplement it. This has resulted in considerable improvement in the diabetic control and complete freedom from insulin reactions.

Case 11 • A 21-year-old woman of medium body build, who weighed 113 pounds and was 63½ inches tall, complained of symptomatic juvenile-type diabetes for the past 4 years. She was prone to insulin reactions. There was no past history of acidosis or coma. She had been treated with 40 units of insulin daily for the past 4 years, but she did not carry out adequate diet therapy. Her diabetes was not well controlled. She had very severe insulin reactions; during one such episode, she jumped out of a window with a drop of some 15 feet to the street.

The patient was started on an adequate diet, which resulted in the reduction of Lente insulin from 40 to 22 units per day. The insulin was supplemented by 187.5 mg. of DBI daily. Subse-

quently, the insulin was further reduced to 12 units daily. This combined DBI and insulin therapy has maintained adequate control of the diabetes, and she has not experienced further attacks of insulin reactions. The result has led to a marked improvement in her sense of security and willingness to cooperate in her program of diabetic control. She has complained of side reactions of extreme fatigability of the legs upon walking or dancing. On occasions she has evidenced acetonuria, without glycosuria, representing the starvation type of acetonuria, which was readily overcome by the administration of additional carbohydrate.

Case 12 • A 19-year-old girl of heavy build, who weighed 144½ pounds and was 51 inches tall, had developed symptomatic juvenile-type diabetes at age 14. She was prone to insulin reactions. There was no previous history of acidosis or coma. She had been treated for 4 years on an average daily dose of 20 units of insulin and diet therapy. Because she was reaction-prone and was gaining weight, she received DBI early in the study in an effort to reduce her insulin requirements, avoid insulin reactions, and to realize some improvement in dietary control to effect weight reduction. At the end of 60 days, she was receiving 100 mg. of DBI daily without any improvement in control of her diabetes, and she had lost 5 pounds in weight. The drug was discontinued at that itme. Subsequently, the insulin requirements increased from 20 to 30 units of Lente insulin, and she continued to experience insulin reactions. After having been discontinued for 4 months, DBI was again tried; this resulted in a modest reduction of insulin dosage from 30 to 20 units daily, better adherence to diet (10-pound weight loss), freedom from reactions, and an improved sense of well-being. The gastrointestinal intolerance which occurred at the outset of treatment had disappeared. The original dose had been increased to 100 mg. daily, and she is at present taking 75 mg. daily. It is possible that the gastric symptoms were originally misinterpreted, although they were significantly improved after the drug was discontinued.

Case 13 • A 49-year-old woman of heavy build, who weighed 190 pounds and was 62 inches tall, developed symptomatic adult diabetes at age 35. There was no past history of acidosis or coma. There was a history of myocardial infarction with effort angina for which she was being treated with Peritrate. She had been receiving 42 units of NPH insulin and diet therapy for the past 13½ years. Because of physical inactivity resulting from her cardiac disability, she had gained a considerable amount of weight. In an attempt to obviate the insulin reactions, DBI in doses of 125 mg. daily were given, and the NPH insulin was reduced to 28 units daily. This resulted in a reduction of weight and freedom from insulin reactions. The diabetes is now well controlled, and she has continued on this dosage schedule for the past 6 months.

Case 14 • A woman, aged 33, of asthenic body build, who weighed 125 pounds and was 68½ inches tall, had developed symptomatic juvenile-type diabetes at age 16. She was prone to insulin reactions and periodically manifested moderate amounts of acetonuria. She had been using NPH insulin from 4 to 6 years, 45 units administered in the morning and 10 units at night. Since receiving a daily dose of 100 mg. of DBI, she has felt extremely well and is free of insulin reactions. Her diabetes is apparently under control, and the insulin dosage has been reduced to a single dose of 30 units daily concomitant with multivitamin therapy. There has been no gain in weight.

Case 15 • A woman, aged 47, of medium body build, who weighed 134 pounds and was 65 inches tall, had developed a symptomatic juvenile diabetes at age 32. She was prone to insulin reactions. There was no past history of acidosis or coma. She was treated with a dietary prescription containing 125 grams of carbohydrate, and she used 28 units of regular insulin and 14 units of PZI daily. The diabetes was fairly well controlled on this therapy, and she maintained a constant body weight of 131 pounds. However, she was subject to severe insulin reactions so that it was thought necessary to reduce her insulin dosage and to supplement it with DBI. There was freedom from insulin reactions, but there was a steady weight loss with increasing fatigability. The initial dosage of DBI was 75 mg. daily; the dosage of insulin was reduced to PZI, 12 units, and regular insulin, 16 units. She did not feel well on this dosage, and the DBI was thus increased to 100 mg. daily. This resulted in a weight gain of 4 pounds and enabled her to adhere to her diet with less difficulty. There has since been a continuous increase of energy and a feeling of well being.

Case 16 • A 76-year-old woman of medium body build, who weighed 160 pounds and was 67 inches tall, had developed adult symptomatic diabetes at age 73. There was no past history of acidosis or coma. In addition, she was suffering from an ischemic and neurotrophic ulcer above the left lateral malleolus. Before treatment with DBI she had been treated with diet alone. She received a daily dosage of 75 mg. of DBI in combination with small amounts of insulin to encourage healing of the neurotrophic ulcer. Healing was established, and an attempt was made to convert the patient to DBI. She received vitamin supplements and Dibenzyline concomitantly with DBI. She developed severe nausea, and DBI was withdrawn with relief of symptoms. It is probable that the initial dosage was too high.

Case 17 • A 79-year-old woman of medium body build, who weighed 166 pounds and was 67 inches tall, developed symptomatic adult diabetes at age 75. There was no past history of acidosis or coma. She had been using 16 units of Lente insulin daily

for the past 4 years. Because of senility, failing eyesight, and consequent unreliable insulin administration, she was given a daily dose of 37.5 mg. of DBI, which has resulted in excellent control of the diabetes. Her adherence to dietary prescription has improved, and she has reduced her weight.

Case 18 • A 45-year-old woman of heavy body build, who weighed 246 pounds and was 71 inches tall, had developed symptomatic adult diabetes at age 43. There was no past history of acidosis or coma. She had been treated for 22 months with 14 units of Lente insulin daily, and diet therapy was attempted. She had difficulty in adhering to the dietary program; for this reason, DBI was administered in an effort to enable her to adhere more strictly to her dietary prescription. She received a daily dosage of 37.5 mg. of DBI. There has been a weight loss of only 2½ pounds, but she feels well and the diabetes is now satisfactorily controlled.

Case 19 • A 69-year-old man of medium body build, who weighed 208 pounds and was 72 inches tall, had developed symptomatic adult-type diabetes at age 66. There was no past history of acidosis or coma. There was gangrene of the left great toe, with infection. The patient had been receiving 20 units of Lente insulin daily for 2 months in addition to diet therapy. He was then treated with 75 mg. of DBI daily, antibiotics, Dibenzylene, vitamin supplements, and salicylates. The lesion of the left great toe had been healing well, but within 5 days after discontinuing insulin and during administration of DBI, there was a very definite breakdown of the involved tissue; this again improved considerably following reinstitution of insulin. He was maintained on insulin therapy for a total of 60 days until healing was complete. He was then given DBI therapy, and he remained on this therapy for 30 days without any evidence of untoward reaction to the affected area. Diabetic control was adequate. He was lost to follow-up in January 1960.

Case 20 • A 44-year-old man of medium body build, who weighed 171 pounds and was 73 inches tall, had developed diabetes of the adult type at age 41. There was no past history of acidosis or coma. The patient had been taking 10 units of insulin daily for the past 30 months. Because of his irregular working hours, his family was anxious to avoid the use of exogenous insulin, because it was feared that meals might not be taken at the prescribed time; for this reason it was decided to treat him with DBI.

He is receiving 25 mg. of DBI with each meal, and this has proved to be very satisfactory. Control at the present time is comparable to the control achieved by insulin and, in addition, the anxiety associated with his meals is now allayed.

Case 21 • A woman, aged 75, of asthenic body build, who weighed 123 pounds and was 65 inches tall, developed a symptomatic adult form of diabetes. She also had arteriosclerotic heart disease with atrial fibrillation and chronic congestive heart failure. There was no past history of acidosis or coma. The patient had been receiving 2.5 grams of tolbutamide daily. She failed to respond to this medication, and was treated with 62.5 mg. of DBI daily, with which an excellent response has been maintained.

Results

1. Newly diagnosed cases and cases previously untreated by any other means than dietotherapy • This group consisted of 9 cases. By the standards set forth above, there was effective control in all cases. There was one failure (Case 1) after 7 months. There was 1 case (Case 5) of gastric intolerance, which was probably related to the dosage. There was 1 case (Case 6) in which diabetes was secondary to pancreatic carcinoma, in which there was adequate control of all symptoms until extensive carcinomatous liver involvement occurred. There were 2 cases (Cases 7 and 10) in which DBI could be discontinued after caloric restriction had improved the patients' insulogenic response. There were 3 patients (Cases 4, 6, and 8) in whom the body build was described as "heavy," although there was only 1 (Case 4) who was truly obese and whose symptoms were sufficiently severe to justify institution of measures in addition to dietotherapy. DBI accomplished this in a most satisfactory manner.

Three diabetics under age 11, including 2 whose disease was definitely of the growth-onset type (Cases 2 and 3), were adequately controlled by DBI from the onset of treatment. Control failed in one of these cases after 7 months; this patient's condition is much better since she has been on insulin than it was when she was on DBI. Attempts to define the reason for DBI failure in this instance are not clear. Infection was conclusively eliminated as a cause. There has been no evidence of a growth "spurt," but environmental, emotional trauma may have been a factor.

2. Brittle or labile diabetics • This group included 6 cases. All but one of these (Case 14) were reaction-prone. Adequate dietotherapy plus insulin had resulted in unsatisfactory control. If these patients were maintained on a dosage which resulted in freedom from reactions, glycosuria and hyperglycemia occurred to an undesirable degree. When the dosage of insulin was increased there was an increased incidence of severe reactions or a natural increase in food intake with resultant undesirable weight gain.

The patient in Case 14 was a stable, adult-type diabetic whose obesity had been materially contributed to by inactivity necessitated by coronary arterial disease. Improved control was necessary but it was deemed dangerous to increase insulin dosage. For this reason, insulin was supplemented

with DBI; this achieved good control and a slight decrease in body weight. In 4 cases the insulin dosage was reduced an average of 39.3 per cent, and in 2 cases the insulin dosage was not lowered. In all 6 cases, the degree of diabetic control was improved. Side effects consisted only of muscle fatigue and occasional starvation ketonuria (both in Case 11).

3. Cases in which complete replacement of insulin was attempted • This group included 5 cases. Indications for insulin replacement consisted of absolute refusal of self-administration of insulin (Cases 16 and 19) with complications demanding good diabetic control. In 1 case of obesity (a physician) it was hoped that discontinuance of insulin and substitution of DBI would result in a decreased craving for food and a consequent weight reduction. This was not realized. This patient would actually need no treatment other than caloric restriction. There was one senile patient (Case 17) in whom inaccuracy of insulin dosage was becoming hazardous; and one mild adult-type diabetic with low insulin requirements, whose working hours were irregular and in whom insulin reactions constituted a constant threat. There was one instance of gastric intolerance (Case 16). The patient in Case 19 was lost to follow-up, but during the 3 months of observation, control was as good on DBI as it was on insulin.

4. Secondary tolbutamide failure • In this 1 case, the patient had experienced a secondary tolbutamide failure after 18 months of therapy, and she has shown a satisfactory response to DBI.

Discussion

It is not within the scope of this presentation to discuss the controversial points regarding the site of action of phenethylbiguanide. It appears to have a consistent effect in lowering blood sugar and, not unlike the effect of exercise, it appears to enhance the utilization of glucose-6-phosphate via the Emden-Myerhoff pathway.[1] Attempts to invoke the Pasteur "effect" as a basis for the drug's ability to increase the utilization of glucose appear to have been refuted by recent investigations. Just what influence DBI has in oxidative phosphorylation is still unsettled. As in the case of insulin, DBI is capable of producing ketosis in the absence of sufficient carbohydrate intake or overloading with the drug. This could be explained by excessive glycogenolysis and glycolysis with "shutting down" of the hemosemonophosphate shunt and lack of sufficient TPNH for normal fatty-acid synthesis.

The drug should not be used as a substitute for caloric and carbohydrate restriction or for exercise which is so important for good diabetic control. Neither should *any* hypoglycemic agent, including insulin, be substituted for eradication of infection, resolution of emotional stress, or patient cooperation. Holistic care of the diabetic patient is the framework necessary for the prevention of disastrous complications. Unless the physician who is charged with the care of these patients appreciates this fact and approaches all facets of the problem intelligently, the availability of the biguanides and sulfonylureas may be a catastrophe. The availability of these drugs is conducive to an omission which is, unfortunately, willingly accepted by the diabetic patient.

As Duncan has so frequently stated and again recently reiterated,[2] 80 per cent of our diabetic population can be controlled by dietotherapy alone and should require neither insulin nor oral hypoglycemic drugs. He points out that another 10 per cent, the juvenile diabetics and adults with juvenile-type diabetes, are unresponsive to sulfonylureas. The remaining 10 per cent are not obese and have an adult, stable type of diabetes responsive to sulfonylureas, but Duncan points out that there is a high percentage of secondary failures in this category to this group of drugs.

While both insulin and phenethylbiguanide have blood sugar-lowering effects in common, their action is not identical, and phenethylbiguanide should not be used to replace insulin for any other reason than patient betterment. Patient betterment does not include mere convenience for the patient, nor does it include convenience for the physician when he substitutes any of the oral hypoglycemic agents, or insulin for that matter, for a well-rounded, intelligent approach to all the aspects of diabetic management.

I believe that oral hypoglycemic agents have a real place in the initial management of the newly diagnosed, uncomplicated *obese diabetic.* Insulin appears to have no advantage over phenethylbiguanide in these cases and, in fact, the latter may prove to be preferable. Insulin is lipogenic and appetite-stimulating and therefore productive of the well-known degenerative complications of diabetes mellitus. The normoglycemic state produced by insulin and sulfonylureas in these patients does not necessarily represent a desirable, *total* metabolic situation. According to Sadow,[3] phenethylbiguanide is neither lipogenic nor glycogenic. By way of anaerobic glycolysis, a maximal amount of pyruvate and lactate is produced; this situation is not particularly undesirable. Were this medication to be used as the sole exogenous hypoglycemic agent in this type of case, lipogenesis would result only from the production of endogenous insulin. This seems, to me at least, a more desirable metabolic achievement.

In any event, the obese, adult-type diabetic is deserving of alleviation of symptoms until his carbohydrate handling capacity is improved endogenously by caloric *and* carbohydrate restriction. As noted in several cases herein presented, drug therapy may be discontinued, as insulin has been discontinued so frequently in the past, when the carbohydrate handling capacity has improved. However, the physician who employs insulin or oral preparations in lieu of these other features of treatment is guilty of neglect. Duncan[2] has referred

to this attitude as a "doctrine that partial treatment is good enough."

If one is certain that diabetic lability is not attributable to overfeeding and overinsulinization, phenethylbiguanide has a real place in supplementing exogenous insulin in controlling these problem cases. Frequently, lability is due to too much carbohydrate in a dietary prescription, requiring doses of insulin that are productive of mild to severe insulin reactions. Case 11 is a good example of this point. Even though this patient's insulin requirements were reduced nearly 50 per cent by carbohydrate restriction without undue weight loss, she still experienced insulin reactions which disappeared with further reduction in exogenous insulin and a supplement of unusually large doses of DBI, which were very well tolerated.

The stable adult diabetic who does not require weight reduction and who requires daily insulin dosage below 40 units seems to fare very well on any of the oral hypoglycemic drugs. Sulfonylurea failures are fairly frequent but, as noted in one instance in this series, the diabetes can be brought under control by phenethylbiguanide. This would indicate that the action of the sulfonylureas and phenethylbioguanide is not similar.

In my experience, use of the oral hypoglycemic agents has been of great benefit and a source of comfort to elderly diabetic patients, who, because of dimness of vision, feebleness, tremors of parkinsonism, paresis of cerebral vascular disease, and so forth, have difficulty in accurately measuring the daily dose of insulin.

Of particular interest are the three children in this series whose diabetes was controlled from onset by phenethylbiguanide. There was apparent failure in one instance after 7 months. Alterations in the severity of the diabetic state, with increased exogenous insulin requirements and probable failure of responsiveness to oral hypoglycemic agents, is known to occur in children during periods of rapid growth, infection, and social and emotional adjustments. I do not therefore feel that this failure is an indictment of the drug. The two other patients have been on therapy for too short a period to offer any definite opinion. A child who can be thus controlled is certainly much less subject to the psychologic trauma of being "a diabetic" than by other means. If the observations of Krall, White, and Bradley[4] regarding normal growth and development of these children are substantiated, the use of phenethylbiguanide in such cases would seem to be a real advance. Similar experiences with the sulfonylurea group have not been reported.

Side reactions to phenethylbiguanide have consisted only of gastric intolerance, and it is my opinion that the incidence is directly related to the initial dosage. Recent experience starting with small doses and gradually increasing the amount of drug indicates no untoward side effects. The incidence of side effects seems to be related more to the rapidity with which the dose is increased than to the ultimate final dose.

Conclusions

Twenty-one cases of diabetes mellitus have been presented. The cases were selected at random, and phenethylbiguanide (DBI) was employed as the blood sugar-lowering drug, either alone or as a supplement to exogenous insulin. In all instances, dietary prescriptions contained no more than 150 grams of carbohydrate. No attempt has been made to investigate or elucidate the pharmacologic action of phenethylbiguanide.

From the facts presented above, the following conclusions are permissible:

1. Phenethylbiguanide has a consistent blood sugar-lowering effect.
2. It has a broader application than any of the other oral hypoglycemic agents because it can be applied with uniformly good results in the lean, middle-aged, relatively stable diabetic patient. These patients seem to respond as well, at least initially, to the sulfonylureas, but "secondary failures" with this group of drugs are common. We have seen no "secondary failures" with the use of phenethylbiguanide.
3. This drug has unique value in bringing about a more nearly ideal degree of control in the brittle or labile diabetic patient; this infers, of course, that the drug is used in conjunction with exogenous insulin.
4. It appears to have unique value in control of a fairly large percentage of cases of growth-onset diabetes mellitus.
5. The agent is satisfactory for the treatment of the obese, adult-type diabetic, and it may be preferable to insulin.
6. Undesirable side effects from the use of phenethylbiguanide are minimal with a proper initial regulation of dosage.

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Aggressive approach to the diagnosis of "strokes"

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In the past, treatment of patients showing clinical evidence of a cerebrovascular accident has been hindered by a lack of means for accurately determining the cause and extent of brain damage. Physicians have been able to determine that hemorrhage into brain substance or a ventricle has occurred if examination of the spinal fluid reveals blood, but beyond this it has been necessary to assume many things. We have been taught to assume that hemorrhage has occurred if the onset of paralysis is sudden, particularly in a hypertensive patient, or if severe headache is present. Contrariwise, we have assumed the presence of a thrombus if symptoms are slowly progressive or if they quickly regress. Comparison of current concepts with those of a century ago[1] reveals that there has been little progress in diagnosis of strokes, other than the use of the spinal tap, until very recent times. Diagnosis in transient attacks of cerebrovascular disease, in particular, is still difficult.[2]

With improved technics of modern neurosurgery and vascular surgery,[3] and the more recent advent of fibrinolytic agents, it becomes the duty of the general practitioner or the internist to arrive at as accurate as possible an evaluation of the pathologic changes in cerebrovascular accidents. In the past year at the Mount Clemens General Hospital, we feel that we have saved several patients from death or paralysis, through what we term our aggressive approach to the problem at hand. We present here a series of cases which strongly suggest the necessity of including early cerebral angiography in the established routine management of a patient who has suffered a stroke. These cases indicate that regardless of history and presenting symptoms, there are often extracranial elements in the pathogenesis.

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Case 1 • The patient, a 59-year-old man, was admitted to the hospital on December 29, 1959, with the chief complaint of weakness of the right arm and leg and difficulty in speaking. The symptoms had been slowly progressive for 2 days and were at first misinterpreted by the family, for it seems there had been many similar episodes during the years of the patient's chronic alcoholism. In this instance, however, the patient had abstained from alcohol during the preceding 6 weeks. At the time of admission he was alert; the pupils of his eyes were small but equal in size and reacted normally to light. There was weakness of the left facial muscles and marked weakness of the right extremities. The fundi were normal and blood pressure was 146/82 mm. Hg. Spinal fluid findings were normal. Since this appeared to be a clear picture of cerebral thrombosis, anticoagulant therapy was instituted. Because of personal and financial reasons, however, the patient was discharged 4 days later, to continue anticoagulant therapy as an outpatient.

The patient was readmitted on January 16, when it was reported that his marked improvement had continued until just the day before. The symptoms then returned and on the day of admission the patient was unable to get out of bed. He showed complete right hemiplegia, aphasia, and marked disorientation. Again the optic fundi were normal. The blood pressure was 138/84 mm. Hg. Lumbar puncture showed the fluid pressure to be normal; the protein level in the spinal fluid was 31 per cent and there was slight xanthochromia. It was thought that extension of the thrombosis had occurred, although hemorrhage due to anticoagulant therapy was not excluded. The symptoms progressed rapidly to coma, and carotid angiography was carried out on an emergency basis. This study revealed a subdural hematoma in the left parietal area (Fig. 1). Surgical evacuation of this lesion, a condition of apparently long standing, resulted in the patient's complete recovery.

This is the story of a patient with apparently

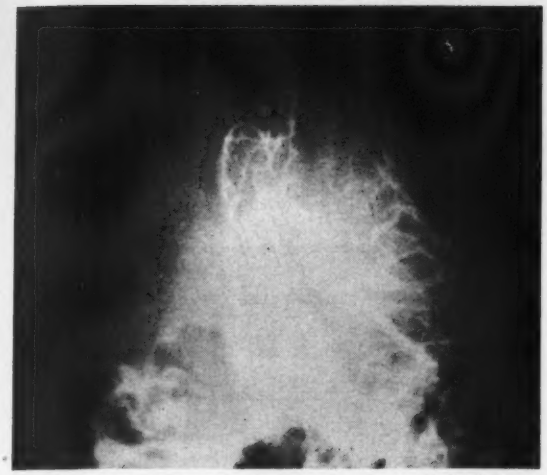

Fig. 1. Left carotid angiogram showing a large subdural hematoma in the left parietal area. Note the compression of the smaller branches of the middle cerebral artery and their failure to fill out to the inner table of the calvarium, also the marked displacement of the left anterior cerebral artery to the right.

conclusive evidence of cerebral thrombosis. Only the belated angiography and the rapid introduction of proper surgical management saved his life.

Case 2 • The patient was a 61-year-old woman who was hospitalized on June 5, 1959, because of sudden left hemiparesis. Examination revealed weakness of left facial muscles and paralysis of both left extremities. The pupils and fundi were normal. Blood pressure was 120/60 mm. Hg and laboratory findings were normal except for slight hyperglycemia. Examination of the spinal fluid yielded normal findings. Although the onset of symptoms was sudden, in the absence of hypertension and headache, it was felt that the possibility of thrombosis was strong enough to justify anticoagulant therapy. On this regimen and physiotherapy, marked clinical improvement occurred, with complete restoration of function in the left arm and satisfactory return of function in the left leg. Anticoagulant therapy was continued and the patient enjoyed an active life for some months. On December 23, however, she suddenly experienced difficulty in speaking and in controlling her left arm. She was readmitted to the hospital, where anticoagulant therapy was continued. She gradually became comatose, and the left pupil dilated. On the suspicion that hemorrhage had occurred, carotid angiography was performed to locate the site of the bleeding. The examination revealed, however, a marked shift in the anterior cerebral artery which was interpreted as being due to a large intracranial tumor (Fig. 2). By this time the patient was moribund, and death ensued.

It is difficult to know to what extent surgical intervention might have benefitted this patient at the time of the onset of symptoms—it might have prolonged or saved her life. In any event, only cerebral arteriography prevented this death from being attributed to a "stroke." Certainly the clinical course was that of cerebrovascular accident, and in such cases death is considered the usual outcome.

Case 3 • A 62-year-old man was first hospitalized on December 6, 1957, because of recently discovered hyperglycemia. There was a family history of diabetes and polyphagia; polydipsia and weight loss were reported by the patient. Physical findings were not remarkable except for moderate obesity and mild hypertension. Hyperglycemia was controlled by diet and an oral hypoglycemic agent.

The patient was next admitted to the hospital on May 6, 1959, because of frequent brief episodes of paralysis, carelessness in his appearance, and an apparent deficit in memory for recent events. Again the physical findings were not remarkable, and the laboratory findings including glucose levels were within normal range. Therapy consisted of intravenous procaine, inhalation of carbon dioxide, and anticoagulant administration. The patient was discharged without improvement on May 17; the clinical impression was that of cerebral sclerosis.

The patient was readmitted on May 24 because of marked somnolence and lethargy. Physical and laboratory findings failed to reveal a cause for the symptoms. During his hospitalization gross hematuria occurred, and was believed to be due to hypoprothrombinemia induced by anticoagulant agents. An intravenous urogram revealed that the kidneys were normal. Hematuria ceased and the patient was discharged in unchanged condition. Ritalin and Dexedrine were prescribed. His course was relentlessly downhill, however; by November 30 his left hand was paralyzed and emotional lability was marked.

On March 20, 1960, the patient was again hospitalized because of progressive mental deteriora-

Fig. 2. Left carotid angiogram. The normally midline-lying left anterior cerebral artery is displaced to the right, indicating the presence of the space-occupying lesion.

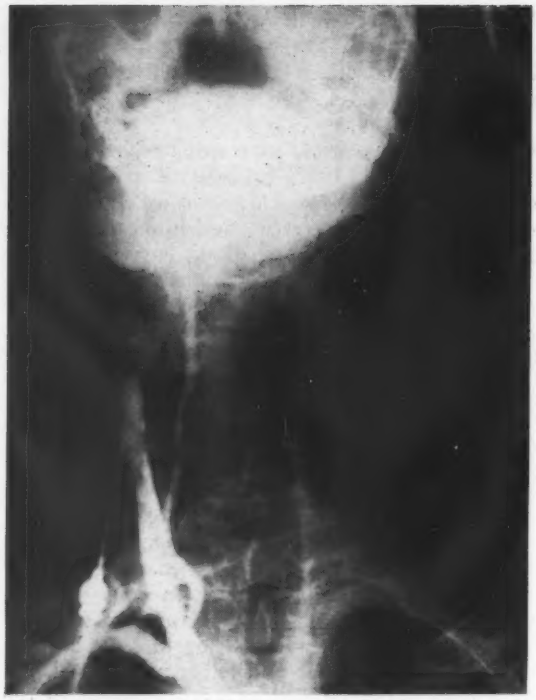

Fig. 3. Close-up view of the angiogram showing complete occlusion of the right common carotid artery. Note retrograde filling of the right innominate, subclavian and vertebral arteries.

tion and increased paralysis and hypertonicity in the left arm. A positive grasp reflex on the left was now observed. At this time carotid angiography was performed, revealing complete occlusion of the right internal carotid artery (Fig. 3). Neurosurgical consultation was obtained and surgical correction was attempted, unsuccessfully. The patient is at present a helpless cripple, unable to speak, who breaks into tears when greeted by another person. One must wonder what the situation might have been had the correct diagnosis been made sooner.

Case 4 • A 61-year-old woman was admitted shortly after a brief period of unconsciousness. When consciousness returned there was slurred speech, headache, weakness of the right arm, and amnesia for recent events. Physical findings were essentially normal; the spinal fluid was normal except for elevated sugar, which was determined to be due to previously undetected diabetes.

The sudden onset of rather pronounced symptoms accompanied by severe headache, and in the absence of any premonitory symptoms, certainly suggested cerebral hemorrhage and previously would have called for little more than management of the hyperglycemia, physiotherapy, and later rehabilitation, if the patient lived. By this time, however, our "aggressive plan" had been established, and by cerebral angiography we were able to demonstrate almost complete occlusion of the left internal carotid artery (Fig. 4). Intravenous fibrinolysin and anticoagulant therapy were immediately instituted, resulting in complete recovery with resolution of all symptoms. If the correct diagnosis had not been made, the occlusion would probably have become complete, resulting in extension of symptoms which would have been thought to represent recurrent hemorrhage. Permanent disability or death would probably have been the outcome.

Case 5 • The patient, a 71-year-old woman, was hospitalized because of epistaxis and hypertension. On the third hospital day extreme mental confusion was noted, which progressed within 1 day to semicoma, right hemiplegia, and aphasia. The spinal fluid was normal. Here again the clinical picture suggested hemorrhage, because of hypertension, absence of earlier symptoms, and fairly rapid onset. Carotid angiography, however, demonstrated severe narrowing of the left internal carotid artery (Fig. 5), and treatment with fibrinolysin and anticoagulants was begun. Alertness returned, with complete recovery of function in the extremities. Some residual speech defect persisted. This case demonstrates the complications which may occur when hypertensive patients with stenotic vessels are given hypotensive therapy.

Case 6 • A 68-year-old man was hospitalized on June 15, 1960, showing inability to talk, difficulty in swallowing, and dysfunction in the left foot. Onset of symptoms had occurred approximately 4 months before. The patient was mentally alert and excellently groomed, but his speech was markedly impeded and he communicated by writing. Swal-

Fig. 4. Angiogram showing marked segmental stenosis of the left common carotid artery just proximal to its bifurcation.

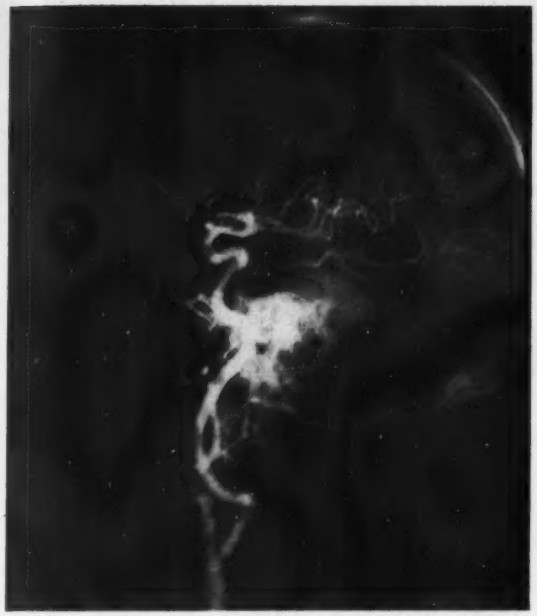

Fig. 5. An annular constriction of the left internal carotid artery is demonstrated on this angiogram.

lowing produced some regurgitation in the nasal passages. Coordination was poor in the left arm; toe-drop was noted in the left foot. Blood pressure was 128/80 mm. Hg, and other physical findings were essentially normal. The spinal fluid was normal except for slight elevation of protein (41 mg. per cent). X-ray films of the cervical spine revealed degenerative disk disease in the midcervical area, with considerable compression. Vertebral angiography demonstrated lack of filling of the posterior cerebral arteries at any time; also it was found impossible to inject the dye past the level of degenerative disk disease when the head was turned to the left (Fig. 6). The pneumoencephalogram was normal.

Since it was believed that irreversible infarction had occurred by this time, therapy was limited to vasodilating agents and physiotherapy. The patient's physical disabilities have continued. If he had been seen at the onset of symptoms, making possible early diagnosis and treatment with anticoagulant agents and possibly splinting of the cervical area or decompression of the vertebral artery by cervical laminectomy, these irreversible changes might have been prevented.

Discussion

Although the preceding cases may seem to demonstrate the poor diagnostic ability of the authors, it is likely that under the circumstances other physicians would have followed a similar course. Most experienced authors concede that in the absence of blood in the spinal fluid, the differential diagnosis of strokes is largely presumptive. Such cases as these, however, offer significant evidence that brain tumor can masquerade as thrombosis and that thrombosis may act like cerebral hemorrhage, with the "little-stroke syndrome" resulting from slow occlusion of a major vessel. In addition, it is clear that subdural hematoma can occur with no history of injury, although in the first case above it is likely that injury did occur during some period of alcoholic anesthesia. The results of injury can also mimic cerebral thrombosis.

It is also evident that a new, aggressive approach to diagnosis can save lives and limbs, minds and dollars, that would have been lost in previous years. A phase of practice that previously held much discouragement and disappointment for physician and patient alike is now a dynamic and hopeful area. Today we can see a patient who is aphasic, bewildered, and paralyzed, enter our hospital, and we can begin a course of action that has a good chance of sending him home a well person within a relatively short time.

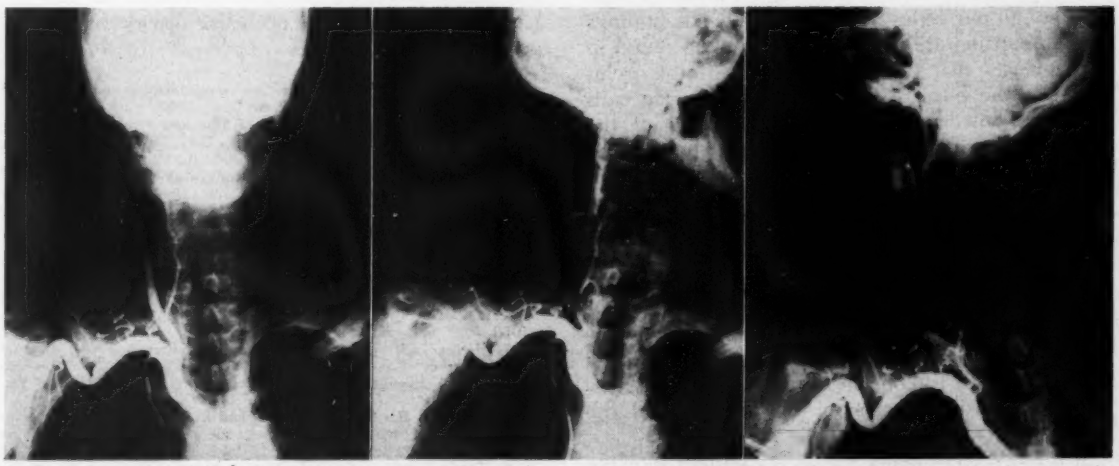

Fig. 6. Right retrograde brachial angiograms. Good filling of the vertebral artery is seen with the head in a straight anteroposterior position and with the head rotated to the left (left and center). With the head rotated to the right, there is occlusion of the vertebral artery at the level of C 4-5 (right). Note degenerative disc disease in the mid-cervical spine.

The dangers inherent in cerebral angiography have been well elucidated.[4] Our experience has indicated, however, that given prudent and meticulous operators, there is more danger in the omission of such studies. Gurdjian[5] states that there are few contraindications to the use of angiography, although as in other diagnostic procedures there is a certain amount of risk. Gutensohn[2] has found that cerebral angiography is not only helpful but is often the only way a definitive diagnosis can be made. Whiteleather[6] considers cerebral angiography the most useful and reliable single procedure in the diagnosis and evaluation of organic brain disease, and states that it may become an outpatient procedure also, when still safer contrast substances are available. He feels that the method is indicated in the following conditions: vascular diseases including congenital aneurysms, arteriovenous malformations, anomalous vessels, occlusive vascular disease, intracerebral hemorrhage, subdural and epidural hematomas, and venous thrombosis; benign, inflammatory, and malignant tumors; and diseases affecting the entire brain, such as hydrocephalus and atrophy. In connection with the last group he reports that although the lesions are best seen in pneumograms, arteriograms are suggestive.

We are in accord with Hardy's opinion[7] that the value of any angiogram is second only to careful physical evaluation as a means of diagnosing arterial disease. In our experience, however, palpation of the carotids has frequently yielded misleading information; it is almost impossible to palpate the neck of a patient with right-sided hemiplegia without feeling, or imagining that one feels, decreased pulsation on the left. Our experience with ophthalmodynamometry has been equally unrewarding, largely because the patient with cerebral artery disease is usually unable to cooperate in the procedure. We have used pneumoencephalography mainly in cases where the angiograms are normal but tumor is still suspected, especially when electroencephalographic changes suggest a local lesion.

Although our series of cases is small, the findings tend to corroborate those of Hardy,[8] who found in similar cases that the most common site of occlusion was the bifurcation of the carotids. He calls attention, however, to the sites of origin of the vertebral arteries as also being commonly involved by occlusion, and cites the reports of other investigators indicating a 40 per cent incidence of vertebral artery occlusion among deaths from cerebrovascular accident. In 200 cases of "stroke syndrome" studied by clinical, neurologic, and radiographic means, Tatelman[9] found a number of cases of partial occlusion of the carotids produced by arteriosclerotic plaques. The findings in our series tend in general to confirm the relatively high incidence of carotid occlusion on the left and the increased frequency in diabetic patients.

It is our sincere belief that every patient showing signs of a cerebrovascular accident, who does not rapidly improve or who has grossly bloody spinal fluid, should have the advantage of cerebral arteriography. In our cases, consultation with a conservative and conscientious neurosurgeon has resulted in medical management in most cases, with satisfactory results in those cases diagnosed early. Longstanding occlusions must of course be surgically managed. The success of surgical correction is confirmed by DeBakey,[10] who reports restoration of circulation in about 100 of 117 cases of occlusion of the internal carotid. Where treatment is long delayed, however, as in our Case 3, even surgical intervention cannot benefit the patient. This points up our contention that early and complete diagnosis is essential in all cases of cerebrovascular accident.

Summary

Physical findings alone are inadequate to diagnose strokes, and conservative treatment may be unrewarding. Much morbidity and mortality results from the failure to take advantage of proper diagnostic facilities and the modern medical and surgical treatments available. An aggressive approach to the problem includes early angiographic studies to confirm or establish the diagnosis, followed by vigorous medical treatment or indicated surgical intervention.

Apparent intracranial disease often is due to extracranial vascular lesions. Cerebral angiography is necessary to establish the diagnosis. It is not a procedure to be done in a haphazard way, but when used with care by competent and prudent physicians its benefits far outweigh any inherent dangers. Six cases are described which illustrate the benefit to the patient of early, definitive diagnosis and treatment of stroke, as contrasted with the results of the former practice, necessitated by lack of knowledge and diagnostic methods, of "assuming" the diagnosis and instituting supportive treatment only. The authors' experience tends to confirm other investigators' findings of a relatively high incidence of carotid occlusion on the left and an increased frequency of occlusive disease in diabetic patients.

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Chronic pelvic inflammatory disease

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The purpose of this paper is to explain my philosophy of the treatment of chronic pelvic inflammatory disease. This philosophy has evolved from close and critical observation of this entity over a period of more than 30 years. It embraces concepts acquired in practice and study, and insight obtained in the classroom and in the operating room.

It is conceded at the outset that this subject is highly controversial, and that there are many divergent approaches to the problem. My own view may well change at some time in the future, since nothing in progress is static; philosophies, understandings, and technics change as knowledge broadens.

Chronic pelvic inflammatory disease is a condition formally identified in the *Standard Nomenclature of Diseases and Operations*[1] as "chronic diffuse inflammation of internal female genital organs." In common usage, the shorter form is preferred. As used here, the word "pelvis" designates the internal pelvic organs: the cervix, uterus, tubes, ovaries, bladder, pelvic ureters, rectum, and pelvic sigmoid.

Description and diagnosis

The term "chronic pelvic inflammatory disease" immediately suggests a familiar image: the patient with a long history of suffering from her female organs. Invariably, this patient manifests varying degrees of scarring and fibrosis secondary to the recovery of tissue from inflammatory or infectious insult.

The pathway to the pelvis may be either exogenous, extrinsic, and ascending, or it may be endogenous, intrinsic, and hematogenous.

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The exogenous, extrinsic, ascending type of pelvic inflammatory disease usually starts as either a gonococcal, colon bacilliary, staphylococcal, or streptococcal infection. It may be of venereal, postabortive, or postpartum origin.

The endogenous, intrinsic, hematogenous type of pelvic inflammatory disease is more insidious, and the usual organisms to be distinguished are colon bacilli, streptococci, staphylococci, pneumococci, influenza bacilli, and tubercle bacilli. Patients with this condition have foci of infection in other areas and organs of the body, so that as infection in the original areas exacerbates, the secondary pelvic involvement also worsens.

The most common complaint of such a patient is persistent or perhaps recurrent pelvic pain, varying from a mere ache to severe, incapacitating distress. This pelvic pain is ordinarily accompanied by sacral or lumbosacral pain as well. In addition, leukorrhea is usually present to a greater or lesser degree, with its characteristics dependent upon the extent of the pelvic congestion and on the associated organisms. For example, the discharge may be clear, watery, and irritating if it is from the uterus. If from a cervicitis or a cervical erosion, it may be thick and creamy, of a yellowish or greenish color. In these cases the endocervix is always involved.

The menstrual flow is usually polymenorrheic, either as menorrhagia, metrorrhagia, or both. Dysmenorrhea, invariably present as a symptom, varies in accordance with etiologic factors. Dyspareunia is likewise a common complaint. In its milder forms, it induces pelvic soreness for at least 12 or even 24 hours postcoitally. In its severest form, the pain of coitus reduces the patient to the status of a sexual cripple.

Constipation may be present, although it is not diagnostic. If such constipation is severe, some partially obstructing adhesion or mass should be suspected and investigated.

Exacerbation of symptoms also will follow any condition that may drain the patient's resistance,

such as physical exhaustion, severe illness, or the reactivation of an existing focus of infection.

Bimanual examination of the patient may elicit no demonstrable disorder other than mild parametrial tenderness. Specular examination may disclose some small and not particularly remarkable degree of cervicitis or cervical erosion. At the other extreme, palpation may show a fixed pelvis, either with or without masses of different sizes, traceable to abscess or fibrotic tissue.

It is important to remember that the severity of the pain and the attendant disability are not necessarily in proportion to the pathologic change found on examination of the patient. Rather it is the persistence and recurrence of symptoms, in conjunction with disability, which constitute the significant factors in making a decision as to whether the patient should be treated conservatively or surgically.

Conservative treatment

Conservative treatment of chronic pelvic inflammatory disease is to be considered first. It has many aspects, which perhaps may best be presented in sequential order rather than from the standpoint of importance.

Osteopathic manipulative therapy will help the patient with reversible pathologic change. Such therapy consists of mobilization of the lower dorsal, lumbar, and sacroiliac areas, preceded by relaxing technics of the deep spinal muscles.

Woodall[2] advised transvaginal stretching of the parametrial tissues and uterine ligaments. I believe it was most effective for treating the so-called congested pelvis.

During the two decades subsequent to 1920, long-wave diathermy was used with fair results.

At about this same time, the Elliott machine, with circulating intravaginal hot water, was developed.[3] This device was formally named the "Treatment Regulator for Administering the Elliott Treatment." Its thermostatic and hydraulic pressure controls permitted therapeutic modifications of the water temperature and pressure to the tolerance of the patient.

This machine, which could conveniently raise the temperature of the pelvic structure, provided an exceptionally effective new mode of treatment. Its basic principle—the increase of pelvic blood flow velocity plus accelerated lymph drainage—has not been disproved. The morbidity of severe postabortive and postpartum states was materially shortened in patients to whom it was applied, and this was well before the appearance of the sulfanilamides in this country. It may still be recommended for resistant postabortive or postpartum parametritis, as well as for acute pelvic inflammations. The results obtained are often impressive.

The Thermaflow machine was introduced about 1940. In this device, hot air under regulated heat and pressure control was substituted for the hot water of the Elliott machine. However, this treatment failed to impress me as being as effective as Elliott therapy, although this conclusion is admittedly personal.

An acceptable treatment, the familiar 4-quart douche, has some merit under certain conditions. The douche may be given with the patient supine in the bathtub. The height of the reservoir should be adjusted to produce a slow flow into the vagina which, having been distended to tolerance, is then permitted to empty. The process is repeated at each single treatment until all 4 quarts are used. At the beginning the treatment is administered twice daily. As symptoms subside, the douche may be reduced to once daily, followed by increasingly longer time intervals as the program may require.

This technic does produce a rise in the temperature of the pelvic organs as well as hydraulic stimulation of pelvic drainage. While the 4-quart douche has the advantage of being more feasible for home administration, I do not regard it as effective as the Elliott or Thermaflow technic.

The Photo-Electric Dilator consists of an elongated showcase-type electric bulb which, covered by a rubber sheath, may be inserted into the vagina. The heat it delivers is controlled by either a 15- or 25-watt bulb connected in sequence with the therapy bulb just described. This, of course, produces dry heat, and it is effective.

Sulfa drugs were originally produced in Germany and first appeared in this country as Prontysil and Prontylin, the former being used intravenously and the latter orally. Some of the results obtained can only be described as dramatic.

The first patient on whom sulfa drugs were used at the Philadelphia College of Osteopathy Hospital was a plus-35-year-old woman with active postpartum endocarditis. At the time, the patient had already lowered the temperature "spike," but her temperature could not be normalized. After daily intravenous administration of this drug for approximately 10 to 14 days—and after a severe drug rash—her temperature returned to normal and recovery followed. It was a most pleasing result, much better than had been anticipated.

Thereafter, the domestic sulfa drugs such as sulfanilamide, sulfadiazine, and sulfathiazole came into general use, leading to the currently used compounds. There can be no doubt that these drugs have saved many lives, in addition to decreasing both immediate and late morbidity to a striking degree. With them, gonorrheal infections and their sequelae were quickly controlled and eliminated.

Later, penicillin gave even better results; with combined therapy, using penicillin and sulfa together, the observed results were the best up to that time. With the addition of the various antibiotics, the results obtained by this type of therapy have exceeded all expectations. Properly treated, the acutely infected pelvis is no longer left permanently damaged. Many patients are completely cured and return to a normal life.

In treating chronic pelvic inflammatory disease, the associated cervicitis or erosion should be treated by cautery, radioknife, or fulguration. This is also

true of endocervicitis, bearing in mind that endocervical conization or deep cauterization must be followed by weekly soundings until the canal heals in a state of patency.

The use of Jacobson's solution was reported by Markowitz and Vick[4] in May 1950. The Jacobson preparation consists of a 4:1 solution of benzyl cinnamic ester in olive oil.

The reported program specified the administration of 1 cc. of the substance daily, intramuscularly, 5 days a week, totaling 10 to 12 injections. Of 55 patients studied, good results were obtained in 66 per cent, fair results in 21 per cent, and little or no improvement in the remaining 13 per cent. These authors[4] felt that the Jacobson solution therapy was superior to their conventional therapy, and that the patients receiving the Jacobson treatment showed less fixation and induration at the time of operation.

Williams and Velkoff[5] reported the results of a castrating dose of x-irradiation given 32 women with severe pelvic inflammatory disease. All of these women were premenopausal. The reported results were impressive, although therapy was not effective in menorrheic patients. These patients were all poor surgical risks because of their general physical status.

Wills, Jacobs, and Laudon[6] reported treatment of 10 patients with hydrocortisone and tetracycline. It is significant that in these patients the condition had resisted all other forms of therapy. The prescribed hydrocortisone was as follows: 60 mg. daily for 1 week; 40 mg. daily for 1 week; 20 mg. daily for 1 week; and 20 mg. every other day for 1 week. Tetracycline, in dosages of 1,000 mg. daily, was started with the hydrocortisone and continued for 10 days beyond the hydrocortisone schedule. Their patients were also kept on a salt-free diet and examined weekly for evidence of untoward effects, none of which appeared.

The rationale of this treatment contemplates absorption of the fibrous tissue by the hydrocortisone, thereby permitting the tetracycline to reach the walled-off pathologic area. They expressed a favorable impression with the results in a situation where treatment otherwise would have been frankly surgical.

Hesseltine[7] recommended immediate penicillin therapy, to be followed by antibiotics as indicated by bacterial sensitivity culture studies. He also advised the addition of streptomycin in cases where the organisms are penicillin-resistant.

I have found that a combination of hospitalization, daily intravenous sulfisoxazole, and pelvic heat is most effective. The hospitalization insures physical and sexual rest. The sulfisoxazole dosage is 4 grams in 1,000 cc. of 5 per cent glucose in distilled water. The heat is derived from the Photo-Electric Dilator, applied twice daily for a 20 to 30 minute period. This routine has produced highly gratifying results for all concerned. Those patients who have been helped have had their symptoms subside, permitting resumption of normal routines. Such patients are warned against allowing physical exhaustion to develop, and also against neglect of any infection appearing elsewhere in the physical economy.

For those patients who have not responded to the above therapy, surgical resolution is advised.

Surgical treatment

The whole question of surgical procedure can be considered from one standpoint only: What is best for the patient? The surgical technics to be considered will be set forth in sequential order, as were methods for conservative treatment.

For pelvic abscesses in the cul-de-sac which can be reached, colpotomy and drainage are clearly advisable in order to reduce absorption and toxicity from the abscess. As an immediate consequence, the associated pelvic inflammatory disease is afforded an opportunity to subside. At some later date, the advisability of transabdominal surgical resolution of the problem should be evaluated.

When the pelvic abscess cannot be reached by colpotomy, early abdominal drainage becomes a matter of prime importance in order to forestall a possible major rupture. Statistically, this catastrophe produces the alarmingly high mortality rate of 86 per cent.[8]

There are a number of criteria which, when applied to a particular case, establish the condition as surgical. In such cases, conservative therapy has not rendered sufficient improvement to enable the patient to continue her normal function as a wife or as a mother. Her symptoms have persisted, engendering a gradually and constantly worsening state of sexual, physical, and emotional disability. Accordingly, she can no longer maintain her position within the family circle, and to such an extent she has become a liability.

With these women, the common complaint is frequently couched in such terms as, "I spend most of my time in bed. I am in constant pain, and I can neither be a wife to my husband nor a good mother to my children." For such women between the ages of 20 and 40, the situation is both tragic and serious—fraught with deplorable domestic, sociologic, and psychologic implications.

Many surgeons, in an effort to prevent surgical castration, have performed conservative types of operations on these patients. Unfortunately, the original symptoms supposedly eliminated thereby return soon afterward, sometimes within as short a time as 3 months. It must therefore be concluded that such conservative operations do not reclaim these patients with any permanence; recurrent symptoms will necessitate further operations. In some instances, as many as four or five laparotomies have been performed in an effort to retain ovarian function. As a concomitant, in almost every instance in which procedures of this nature have been adopted, multiple postsurgical adhesions have developed, to the point where they simply nullify

the beneficial effect sought from the final "cleanout" ultimately undertaken.

By contrast, surgeons who adopt a forthright all-or-nothing philosophy in dealing with the definitely "surgical pelvis" are firm in the belief that only a complete pelvic "cleanout" can offer a substantial prospect for permanent reclamation. To this belief, I most heartily subscribe. Regardless of the age of the patient, if adequate conservative therapy has failed, then complete operation is indicated.

It cannot be regarded as a digression to mention here the satisfaction to be derived from observing how these otherwise hopelessly burdened patients resume normal lives following total operative procedure. Interest in the family and the husband and in normal activity can be restored to these patients, re-establishing them as self-confident contributors to the household.

It is not at all unusual for such women to both look and feel 10 or 15 years younger; nor is it unusual for them during the course of periodic postoperative evaluations, to volunteer an assertion like, "I haven't felt this good in years." Results of this kind compel the conclusion that here, indeed, is surgery properly applied.

All pelvic organs, the tubes, ovaries, and uterus with the cervix, should be removed. Anything less with such patients is as illogical as removing a single tonsil or opening the gallbladder, removing the stones, and closing the bladder again. It must be clearly understood that in cases of this type, there is involvement of not merely some, but all the pelvic genital organs.

The words of Cicero, "Reason is the mistress and queen of all things," certainly apply to this situation with fullest force.

As to any subsequent symptoms following surgical castration, they can be readily controlled by substitution therapy. The oral route is satisfactory. Often, younger women in particular may require only a short course of such substitution therapy, and in some it is possible that none at all may be needed. It is thought that the adrenal cortex, thyroid, and pituitary glands step into the breach so that there are seldom any complaints.

However, it is of major importance that some considerable effort be made to dispel the many lay misapprehensions relative to pelvic "cleanout." The time devoted to proper preliminary discussion with the patient, emphasizing the normality, in all important aspects, of the life to be anticipated following operation, can contribute much to her acceptance of a continued and improved role as a wife. Her husband as well should be given the fullest explanation, with particular regard to the sexual and conjugal aspects of their life to follow. He should be assured that his wife's postoperative sexual response will be in no way impaired despite her inability to conceive.

The elimination of the preoperative dyspareunia constitutes an important consideration for both, and should therefore be fully exploited during the discussion. Of course, it must be made plain to all concerned that the recommended operation will not cure the "frigid" woman.

Summary

I have in the main presented my philosophy concerning the treatment of chronic pelvic inflammatory disease. I definitely subscribe to the all-or-nothing precept in surgical cases; however, the importance of adequate conservative therapy is also emphasized.

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Septic abortion followed by septic shock

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Vascular collapse in association with septic abortion is a very serious complication of pregnancy. When the infecting organisms are of particular virulence or when they are introduced from without in gross numbers, as in criminal abortion, the sepsis may lead to bacteremia and vascular collapse. Once this stage is reached mortality may exceed 50 per cent even in this age of antibiotics.

It is the purpose of this paper to present two cases of patients with vascular collapse associated with sepsis seen recently in the Department of Obstetrics and Gynecology at Doctors Hospital. The pathologic physiology and the physiologic basis for management will be discussed.

Description of entity

When vascular collapse without significant blood loss appears in a patient with septic abortion the diagnosis is usually established. The shock is preceded by chills and high spiking temperatures. The usual signs and symptoms of shock are present: hypotension, diaphoresis, rapid thready pulse, pallor, and often subnormal temperatures. There are no pathognomonic signs or symptoms which will readily separate these patients from those who will respond to simple therapy.

Certain findings should alert the obstetrician when there is obvious evidence of a septic process: (1) suspicion of criminal abortion, (2) hypoactive bowel sounds, especially in association with vomiting, and (3) a closed cervical os.

The case histories which follow are typical of this general category of cases and will serve as a basis for the discussion of the pathologic physiology and the physiologic basis of treatment in these cases.

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Case reports

Case 1 • This 25-year-old white woman was first seen in the hospital when she was admitted directly from the emergency room. She had no attending physician and had had no prenatal care up to this time. Her last menstrual period had been 5 months previously. Her presenting complaint in the emergency room was fever, chills, and intermittent uterine cramping at 2- to 4-minute intervals.

Her antenatal course had been rather stormy and even so she had not sought the services of a physician. She had been under a great deal of emotional stress and had been separated from her husband. She intimated that she had tried to perform a criminal abortion on herself, but she would not state the means by which she had tried this. She had been unsuccessful. She also stated that she had had a thick, yellow leukorrhea throughout this pregnancy and at the third month of pregnancy had developed some edema of the extremities and had difficulty in walking. The present episode had begun approximately 2 days previously, at which time she began to have low abdominal cramping, some slight elevation of temperature, and some chills in the last 12 hours. She had had no vaginal bleeding.

On physical examination, this 25-year-old white female appeared somewhat emaciated. Negative findings were obtained by palpation of the thyroid and breasts and auscultation of the heart and lung fields. Palpation of the abdomen revealed the uterine fundus to be two fingerbreadths above the umbilicus, and there was much pain to palpation over the uterus. Her admitting blood pressure was 116/78. Temperature was 103.8 F, pulse rate was 144, and respiration rate was 128. Pelvic examina-

tion revealed the cervix to be slightly effaced and ½ finger dilated. The membranes were intact.

Laboratory tests showed the following results: hemoglobin, 9.7 grams; hematocrit, 32.5 per cent; leukocytes, 8,400, with a differential count of 65 per cent segmented neutrophils, 5 per cent band cells, and 30 per cent lymphocytes. She was Rh-negative and of blood type B; the VDRL test was nonreactive. The urine analysis was negative except for a plus 2 proteinuria.

A tentative diagnosis of septic abortion was made. An intravenous infusion was started, consisting of 1,000 cc. of 5 per cent glucose in saline with 1,200,000 units of penicillin and 1 gram of streptomycin added. She was also given Nisentil, 40 mg. intramuscularly, for pain, and Ascriptin tablets, two every 3 hours, for fever.

About 2 hours after her hospitalization she precipitated a stillborn fetus of approximately 5 months gestation in the labor bed. The fetus, membranes, and placenta were precipitated intact.

The patient was given 10 units of Pitocin intramuscularly. She was also started on a routine of Premarin, 1.25 mg., with testosterone for suppression of lactation. Antibiotics and intravenous fluids were continued as ordered in the first stage of labor. In addition she was started on Declomycin, one 250-mg. capsule four times daily.

Her first postpartum day was uneventful. Her temperature at the end of 24 hours was 96 F and her pulse rate was 96. The blood pressure was 108/72. She complained of some nausea and she vomited once. She was given Donnagel for this and did not complain further.

At 6 a.m. on the morning of the second postpartum day she suddenly complained of vertigo and pain in the chest, and she became quite pale with moist skin. She was immediately put in Trendelenburg position and 10 mg. of Vasoxyl was administered intramuscularly. A vein was opened by cutdown, and 5 per cent dextrose in water was started. Sixth-molar lactate with Neo-Synephrine, 10 mg., was substituted for the 5 per cent dextrose, but the blood pressure remained at 70/40. Four cc. of Levophed were then added to the sixth-molar lactate solution. An electrocardiogram was ordered immediately.

In co-management with the Department of Medicine the following was ordered: hematocrit reading; prothombin time, using the Lee-White clotting time; blood-urea nitrogen; blood sugar; fibrin index; type and cross-match (and have 500 cc. of whole blood ready); flame sodium; flame potassium; flame calcium; flame chlorides; and carbon dioxide combining power.

During the course of the day the following medications were given: 4 cc. of Levophed in 1,000 cc. of sixth-molar lactate, administered at a sufficient rate to maintain blood pressure between 90 and 100 mm. Hg systolic; Demerol, 75 mg. intramuscularly; Solu-Cortef, 50 mg. intramuscularly; Solu-Medrol, 40 mg. intravenously every 8 hours; calcium gluconate, 10 cc. intravenously, slowly; Luminal, 1 grain intramuscularly; ascorbic acid, 1 gram, and multivitamins, 1 ampule, in the intravenous fluid; and corticotropin zinc, 40 units intramuscularly.

A Foley catheter was instilled, and urinary intake and output were recorded. Blood pressure was recorded every 15 minutes until stabilized; then every 30 minutes for 4 hours; then every hour.

The laboratory tests had results as follows: hemoglobin, 9.4 grams; hematocrit, 30 per cent; leukocytes, 35,950, with 47 per cent segmented neutrophils, 20 per cent band cells, 23 per cent juvenile cells, 8 per cent lymphocytes, and 2 per cent monocytes. It was noted that there was toxic granulation in the cells on the differential count. Coagulation time by the Lee-White method was 8 minutes. The thrombocyte count was 48,000, and the fibrin index was normal. The prothombin time was 89 per cent of normal. The blood-urea nitrogen was 39 mg. per 100 cc.; the blood sugar was 117.5 mg. per 100 cc.; calcium was 9.8 mEq.; chlorides, 82.0 mEq.; potassium, 4.3 mEq.; and sodium, 127 mEq.

The patient was then digitalized as follows: Cedilanid, 0.4 mg., given intravenously, slowly; and Digoxin, 0.5 mg. intramuscularly every 8 hours for a total of three doses, and then 0.25 mg. by mouth daily if the apical rate was above 70. If the apical rate rose above 140 the resident was to be notified.

She received 500 cc. of compatible whole blood and sodium Luminal, 2 grains intramuscularly every 4 to 6 hours.

On the morning of the second postpartum day laboratory tests had the following results: hematocrit, 34 per cent; leukocytes, 53,300, with 80 per cent segmented neutrophils, 9 per cent band cells, 1 per cent juvenile cells, and 10 per cent lymphocytes; and the thrombocyte count was 49,000. Calcium was 8.6 mEq.; potassium, 5.4 mEq.; sodium, 127 mEq:; carbon dioxide combining power, 46.9 volumes per cent; blood-urea nitrogen, 48.8 mg. per 100 cc.; and blood sugar, 158.3 mg. per 100 cc. An absolute eosinophil count was done, and none were found. The blood culture showed no growth, so the antibiotic sensitivity test was not done. The urine culture was also negative.

On this day she received 250 mg. of Tetrex intramuscularly every 6 hours and 50 mg. of Vestril every 6 hours.

A flat plate roentgenogram of the abdomen was taken, but it was not helpful. Later in the day she had Solu-Medrol, 40 mg. intravenously; and 4 mg. of Gantrisin and 1,200,000 units of penicillin were added to the intravenous solution.

Despite all measures the patient made no appreciable response. She remained in shock, was semicomatose, and developed marked pulmonary congestion. A uterine curettement was not performed because the patient was still in shock and in my opinion would not tolerate a surgical procedure.

Toward the end of the second postpartum day she received aminophylline, 3¾ grains intravenously; she was being given oxygen through 95 per cent

alcohol in water, and was getting continuous intravenous solutions in the form of 5 per cent glucose and water with Levophed added. Throughout the day she was given hydrocortisone, 80 mg., and 40 units of ACTH were added to the intravenous injections. She was also given one unit of serum albumin, and Chloromycetin was added to the intravenous solutions.

Despite intensive management this patient never regained consciousness, and she died on her second postpartum day.

The autopsy findings on this patient were as follows: (1) marked pulmonary edema and congestion, (2) bilateral bronchial pneumonia, (3) serous hepatitis, (4) mild acute cholecystitis, (5) hematoma of liver, (6) acute splenitis, (7) erythroid hyperplasia of bone marrow, (8) acute bilateral hemorrhagic necrosis of the adrenals, (9) colloid adenoma, and (10) embolic glomerular nephritis with tubular necrosis.

Case 2 • This patient was a 31-year-old white woman, para 6-1-2-2. She was approximately 28 weeks pregnant, and presented herself with the chief complaint of generalized low abdominal discomfort.

In obtaining the history from this individual the fact came to light that she had previously visited two physicians for the purpose of securing an abortion. This had been refused.

Her general history was essentially negative, and her only subjective complaint was low abdominal discomfort which was relieved by bed rest.

Her past obstetric history included the following facts: she had two living children, and she had had two spontaneous abortions at 8 or 10 weeks gestation, and one stillbirth at 36 weeks gestation. The cause of the stillbirth was not known. Her present pregnancy had been uneventful thus far.

General physical examination revealed an emaciated individual who appeared to be her given age of 31. Her normal weight was 116 pounds, and her present weight was 127 pounds. Negative results were noted from examination of the thyroid and breasts, and auscultation and percussion of the heart and lung fields. The blood pressure was 116/74.

Abdominal palpation revealed the fundus to be midway between the umbilicus and xiphoid process. The fetal heart tones were heard in the lower right quadrant and were regular and strong.

Pelvic evaluation revealed the cervix to have a moderately severe erosion. A Papanicolaou smear was obtained which subsequently proved to be negative. She did not have leukorrhea.

This patient was given a routine prenatal instruction booklet and was advised to get a maternity corset. She was begun on routine prenatal vitamin and mineral supplements and instructed in her diet. She was sent to the laboratory for routine laboratory procedures and was instructed to return to the office in 2 weeks for a regular prenatal examination.

The laboratory work showed a hematocrit reading of 41 per cent; hemoglobin of 11.9 grams; leukocyte count of 10,300 with a normal differential spread; and a nonreactive Kahn test. Her blood was type A, Rh negative.

At her next office visit, which was 2 weeks later, her weight was 129 pounds. The blood pressure was 118/32, and the urine analysis was negative.

Fetal heart tones were again heard in the lower right quadrant and were regular and strong. Because the laboratory report had shown that she was Rh negative, she was sent back to the laboratory for an Rh titre; this subsequently was returned as negative.

This patient was next seen when she entered the hospital 2 weeks later, at approximately the thirty-second week of gestation. She had called the office stating that she thought she was in labor; so she was admitted to the hospital with a diagnosis of premature labor.

The admitting orders were as follows: routine laboratory tests; routine perineal preparation; no narcotics; Lutrexin tablets, four immediately, three tablets 1 hour later, and then two tablets hourly until contractions cease; Donnatal tablets, one four times daily; test for fibrin index; absolute bed rest; liquid diet; check and record blood pressure and fetal heart tones every half hour; and report rupture of membranes or bloody show to the resident.

Laboratory results showed hemoglobin to be 11.3 grams; hematocrit, 36.5 per cent; leukocytes, 14,250 with a normal spread; fibrin index, normal; blood, Rh negative, type A; and Kahn test nonreactive.

The patient was maintained on this schedule for 24 hours. At the end of 24 hours the Donnatal was discontinued and the patient was allowed to walk. Lutrexin was given in doses of two tablets four times daily. At the end of 48 hours the patient felt fine, was having no uterine contractions, and was told that she would be dismissed from the hospital on the following morning.

During the evening of her second hospital day she suddenly developed uterine contractions, and pelvic examination disclosed the cervix to be effacing and dilating. Approximately 2 hours after her contractions began the cervix was completely effaced and dilated and the infant's head was at zero station. She had no premedication.

The patient was taken to the delivery room. She was given nitrous oxide and oxygen anesthesia and, after the usual sterile preparation, draping, and catheterization, she had a spontaneous delivery of a premature infant from the left occipitoanterior position. There was no necessity for an episiotomy even though this infant was premature. The perineum was quite lax and offered very little resistance to the fetal head.

The infant's mouth, nasopharnyx, and pharnyx were aspirated, the cord was clamped, and the infant was transferred to the infant table and further aspirated and then sent to the nursery. A Coombs' test was obtained from cord blood. The placenta delivered spontaneously by the Schultz mechanism, and intrauterine manual curettement was negative. There was no repair, and total blood loss was ap-

proximately 100 cc. Intrauterine swabs were made for culture.

As the nurses were clearing the room in which the patient had been before delivery, they found nearly all her oral medication under the mattress of her bed, indicating that she had not taken the medication which had been prescribed to prevent premature labor. It was further suspected that she had been given medication by a friend who was visiting her in the hospital because she started into active and violent labor immediately after the visitor left. It was ascertained later that the visitor was a nurse from another hospital.

The patient was returned to the postpartum floor and the following orders were written: Declomycin, 150 mg. capsules, one every 6 hours; Methergine tablets, one three times daily for two days; Premarin tablets, 1.25 mg. with testosterone, four tablets the first day, three the second day, and then one twice daily thereafter; Empirin compound #3, two tablets as needed for pain; early ambulation; begin exercises on the third day; check and record blood pressure every 15 minutes until stabilized; Bicillin, 600,000 units intramuscularly immediately.

Her first 12 hours postpartum were uneventful. Twelve hours after delivery her pulse was 82, temperature, 99.2 F, and blood pressure, 122/78; she apparently was making a normal postpartum recovery.

On the day of delivery she complained of restlessness, headache, and nausea. She vomited a moderate amount of clear fluid with shreds of reddish material in it. Blood pressure at that time was 126/86, pulse was 90, respirations were 24, and her lochia was normal. Temperature was 98.6 F. The Empirin compound was discontinued as it was thought that perhaps she was having some reaction to the codeine. The antibiotics were continued, as well as the Methergine. The patient had been ambulating and, aside from the nausea and slight headache, she reported that she felt fairly well. She was given Seconal, 1½ grains, at bedtime.

At 5 a.m. on her first postpartum day she suddenly complained of dyspnea and became very cyanotic. Oxygen by nasal catheter was started immediately. It was impossible to get a blood pressure recording. It was noted that she had developed jaundice during the night; this was very evident in both her eyes and her skin. The patient remained quite alert throughout the next few hours.

When vascular collapse without significant blood loss occurs in a patient with septic abortion, the diagnosis of septic shock is usually established

A cutdown in the right ankle was done, and an intravenous infusion started with 1,000 cc. of 5 per cent dextrose in water with 4 cc. of Levophed added; 1 multivitamin ampule and 1 gram of ascorbic acid were also added. Approximately 1 hour later the blood pressure stabilized at 82/56. She had remained conscious and alert throughout the entire proceedings thus far.

Because of my previous experience with bacteremic shock the patient was questioned very closely as to whether or not she had attempted a criminal abortion. This she denied vehemently. Although she denied the possibility of septic abortion it was assumed that we were dealing with a case of septic shock. A medical consultation was called, and the patient was again questioned closely as to the possibility of criminal abortion which she again denied. When questioned about 2 hours later, she finally admitted that she had 4 days previously inserted a 4-inch sliver of slippery elm bark into her cervical canal to produce premature labor.

In co-management with the Department of Medicine the patient was given the following medication: aqueous penicillin, 1,000,000 units intravenously; Solu-Medrol, 20 mg. intravenously; Depo-Medrol, 40 mg. intramuscularly; Demerol, 50 mg., with Phenergan, 25 mg., intramuscularly every 4 hours for pain; 500 cc. of ⅙-molar lactate intravenously with one ampule of Levophed added (this was allowed to drip at whatever rate was necessary to maintain the blood pressure at a satisfactory level). An indwelling catheter was instilled. Oxygen per nasal cannula was continuous. Three grains of aminophylline were given every 8 hours.

The laboratory results at this time were as follows: leukocytes, 5,050, with 66 per cent segmented neutrophils, 5 per cent band cells, 27 per cent lymphocytes, and 2 per cent monocytes; prothombin time, 19 seconds, which was 59 per cent of normal; thrombocytes, 100,000; nonprotein nitrogen, 67.0 mg. per 100 cc.; carbon dioxide combining power, 30.0 volumes per cent; flame potassium, 5.1 mEq.; flame sodium, 125 mEq.; flame calcium, 8.0 mEq.; serum bilirubin, 0.5 mg. per 100 cc.; thymol turbidity, 3.1 mg. per 100 cc.; and blood sugar, 160.0 mg. per 100 cc. A specimen was obtained for blood culture for growth and antibiotic sensitivity. Portable roentgenograms of the chest and abdomen showed nothing significant at this time. The urine analysis was negative with the exception of a plus 2 albuminuria.

Despite medication the patient became progressively worse. It was very evident that her jaundice was increasing hourly, and she began to have small petechial hemorrhages in generalized areas over her body. She complained of chest pain, and her respirations were labored; however, she remained conscious and alert. There was no urinary output

after her first postpartum day. Blood pressure was 82/58.

In addition to the previously mentioned medication she was given 25 mg. of Mephyton and 10 mg. of Vasoxyl intravenously; and 500 mg. of Achromycin were added to the intravenous solution which contained the Levophed.

At the beginning of her second postpartum day her temperature had elevated to 103.4 F, pulse was 120, respirations were 32, and the patient had become somewhat irrational. Her temperature continued to rise and reached 104.2 F; pulse was 120, and respirations were 32. The blood pressure was 100/76. The intravenous infusions appeared to be running well; however, there was no drainage from the Foley catheter and we assumed that there had been complete renal shutdown.

Early in the day the leukocyte count was 45,000 with 78 per cent segmented neutrophils, 16 per cent band cells, 1 per cent juvenile cells, 4 per cent lymphocytes, and 2 per cent monocytes. The hematocrit reading was 38.5 per cent. Urine analysis could not be done. A leukocyte count done in midafternoon revealed 55,600 cells with 80 per cent segmented neutrophils, 6 per cent band cells, 11 per cent lymphocytes, and 3 per cent monocytes. Toward the end of the second postpartum day the hemoglobin showed 17.8 grams, hematocrit reading was 51 per cent, and leukocytes, 86,000, with 82 per cent segmented neutrophils, 6 per cent band cells, 2 per cent juvenile cells, 8 per cent lymphocytes, and 2 per cent monocytes.

She was given during the second postpartum day 3 ampules of Coramine, atropine, and adrenalin in addition to her first-day medication. Despite all measures she rapidly deteriorated. Her vital signs were very unstable. The patient was irrational, and her pulse became irregular. She had a convulsion which lasted 55 seconds; and she became very cyanotic and died at 2:15 a.m. on the third postpartum day.

Blood cultures were returned one week later and were reported as no growth. Culture of the vagina showed a slight growth of yeast. Culture of the endometrial cavity showed Klebsiella, Escherichia, and coagulase-negative Staphylococcus.

Autopsy results were as follows: (1) acute toxic myocarditis, (2) pulmonary edema, (3) hemolytic anemia, (4) multiple adrenal cortical infarcts, (5) massive adrenal parenchymal necrosis and hemorrhage (stage of exhaustion), (6) adrenal cortical hyperplasia, (7) bilateral cortical necrosis of kidneys, and (8) jaundice.

Pathologic physiology

In vascular collapse following septic abortion the following sequence of events has been postulated: the bacteria enter at the time of trauma to the pregnancy; they produce a toxin which has profound hemodynamic effects and causes the hypotension and shock; once fetal death has occurred bacteria are not readily reached by antibiotics.

It has long been recognized that physiologic disturbances manifested by peripheral vascular collapse, hypotension, and shock may be produced by invasion of the blood stream by certain bacteria or their products. This entity has been termed "bacterial shock."

Studdiford and Douglas,[1] in discussing placental bacteremia in relation to septic shock and septic abortion, noted that the organisms cultured were of the coli-aerogenes group. Many of these gram-negative bacteria contain a powerful endotoxin which has been shown to produce, experimentally, a profound vasomotor disturbance ending in shock. The most commonly reported gram-negative bacteria are Escherichia coli, Pseudomonas aeruginosa, and Proteus vulgaris.

Recently septic shock has been described following a gram-positive invasion, in which the organism was Staphylococcus aureus or anaerobic streptococcus. The mechanism of shock in these instances has been attributed to bacterial hypersensitivity rather than to an endotoxin.

Vascular collapse causes functional and organic changes in various systems. Generalized vasoconstriction occurs rapidly in all types of shock and redistributes a large volume of blood to those structures whose function is vital for immediate survival. The beneficial influence of the initial vasoconstriction prevents development of a hemodynamic crisis. Evidence is accumulating that prolonged vasoconstriction in the less essential organs leads to production of lethal factors.

Weil and associates did much to elucidate the mechanism of shock due to bacterial endotoxin.[2] These authors produced experimental evidence that a decreased venous return to the heart due to pooling of blood in the splanchnic bed may be responsible for shock occurring when bacterial endotoxin enters the circulation. They observed a drop in systemic blood pressure after injections of toxin, and noted that the percentage by which the blood pressure decreased was the same as the percentage of decrease in cardiac output. By calculation they found that there was no decrease in peripheral resistance, and by use of a pump which maintained the venous return at a normal rate, they were un-

Management of septic shock is threefold, being directed first at the shock, then at the infection, and finally at renal failure, if this occurs

able to produce hypotension with endotoxin. They concluded that the decreased cardiac output resulted from a decreased venous return to the heart.

Upon measuring peripheral venous pressure and the pressure in the vena cava and portal vein it was found that the pressure had dropped slightly in the vena cava and the peripheral veins; whereas pressure in the portal vein increased markedly. They further concluded that under the influence of bacterial endotoxin the liver provided an obstruction to the return of blood from the splanchnic system. The mechanism of obstruction was considered to be a constriction of vessels of the liver.

Later investigators have demonstrated that organic occlusion of the central veins by thrombi which are observed after endotoxin enters the blood stream must be an equally potent force in obstructing the return of blood to the heart.

Bacterial endotoxins have a profound effect on the blood coagulation system. Fibrinogen levels are markedly affected and in experimental animals may be doubled in 24 hours following small doses of endotoxin. Leukocyte levels fluctuate also. There is an initial drop at the first exposure to endotoxin and a subsequent rise to high levels. Platelets similarly decrease and do not return to normal for several days. All of these changes taken together constitute hematologic evidence of disseminated intravascular coagulation.

There is evidence of disseminated intravascular coagulation in the small vessels of many organs. Involvement of the glomerular capillaries by these tiny fibrin thrombi leads to bilateral renal cortical necrosis. The adrenals may be similarly involved with almost total destruction. The thrombotic process may lead to infarcts in the pituitary, liver, gastrointestinal mucosa, and pancreas. Microscopic pulmonary thrombi may also contribute to the hypotension by occluding pulmonary vessels, causing a decreased return of blood to the left side of the heart with a consequent lessened cardiac output.

Vascular collapse due to bacterial endotoxin results also in damage to the reticuloendothelial system. Humoral factors originating in the kidney and liver have been implicated by Shorr and coworkers.[3] It has been demonstrated that the endotoxin of Escherichia coli is carried in the plasma and is concentrated in the reticuloendothelial system.

Physiologic basis for treatment

In view of the pathologic physiology, the physiologic basis for treatment becomes more clear.

Vasopressor drugs which most effectively increase venous return to the heart, have a dilating action on the hepatic veins, and increase renal blood flow will be most effective. It has been demonstrated that metaraminol and norepinephrine have a physiologic action on the heart, kidneys, and liver in a patient with bacterial shock. However, their effectiveness may be decreased by acidosis.

Sympathetic nervous system blocking agents have been used in the treatment of experimental shock, and the results are conflicting. Thus far the efficacy of sympathetic nervous system blocking agents in humans in the treatment of shock has not been proved.

Adrenocorticotropic hormone and adrenal steroids are being used increasingly in infectious diseases. Experimentally they appear to be of value in endotoxic shock. A recent study in humans with circulatory collapse did not demonstrate adrenal secretory failure; however, these experiments suggested that hydrocortisone has a protective effect against lethal and tissue damaging effects of endotoxin.

Management

Vascular collapse due to septicemia constitutes a major medical emergency. These unfortunate patients must be given prompt and effective therapy if they are to survive long enough to allow an attempt at treatment of the infection. Management is threefold, being directed first at the shock, then at infection, and finally at renal failure, if this occurs.

Vasomotor collapse is the most ominous feature of this syndrome. The blood pressure must be supported by an immediate intravenous vasopressor agent during the delay in institution of definitive therapy. All therapy must be given intravenously because of the uncertainty of absorption from other routes in vascular collapse. Venous cutdowns should be done to enhance administration.

The vasopressor of choice may be metaraminol (Aramine) or levarterenol bitartrate (Levophed). In the cases under discussion Levophed was used in a concentration of 4 cc. to 1,000 cc. of 5 per cent glucose, and allowed to drip at a rate which maintained the blood pressure at nearly normotensive levels.

Blood replacement is mandatory, but it should not exceed the estimated loss. After the blood volume has been volumetrically corrected intravenous fluids should be limited, but what is given should contain a potent vasopressor.

The patient should receive continuous oxygen by nasal catheter and should have an indwelling urinary catheter for measuring urinary output. The urinary output should be maintained if possible above 40 cc. per hour (900 cc. per day). The appearance of proteinuria should alert the physician to possible renal damage.

There are two additional sources of fluid loss in these cases: sweating and vomiting. In combination with septicemia this may lead to metabolic acidosis. Even if urinary output is adequate electrolyte solutions, such as physiologic saline with added potassium or Ringer's solution, should be given to prevent the development of acidosis. If acidosis does develop, intravenous sodium lactate with potassium or Ringer's solution should be administered.

It is obvious that in addition to replacing electrolyte loss it is necessary to replace water loss. A common mistake is overhydration of these patients, and

total intravenous fluid intake must be carefully controlled.

The use of hydrocortisone is also advocated, as septic shock may be due in part to a relative degree of adrenocortical failure. This may be the result of hemorrhagic necrosis of the adrenals plus the chronic stress of pregnancy, with resultant inability to respond to the additional stressful insult. Hydrocortisone, 100 mg. twice daily in the intravenous infusion, should be given. When the blood pressure stabilizes, the daily dose of hydrocortisone should be gradually decreased.

Laboratory work should include serial hematocrit readings for hemoconcentration, study of blood electrolytes, cervical smear with gram staining, blood culture (although this is merely for confirmation), urinalysis, and leukocyte count.

Having established some sort of circulatory stability, one now considers the bacteriologic problem. Time is of the essence in these cases, but cervical or uterine smears with gram staining may be of some value. It is important to take cervical smears and cultures on admission in all cases of suspected septic abortion. Antibiotic therapy should be instituted immediately; one should not await the results of cultures or antibiotic sensitivity tests.

Present studies indicate that streptomycin and chloramphenicol constitute the best antibiotic therapy. Streptomycin is given intramuscularly, 2 to 4 grams daily in divided doses. Chloramphenicol (Chloromycetin) is added to the intravenous infusion at the rate of 2 grams per liter. In addition 1,200,000 units of penicillin (Bicillin) are given daily.

It is important that the uterus be emptied as soon as possible with as little trauma as possible, after all emergency supportive measures have been carried out. Tenney, Little, and Wamsteker[4] have pointed out the value of a more aggressive approach in the management of septic abortion and advocate early curettement.

If the patient is postabortive, uterine curettement should be carried out within 12 hours. One should be very cautious about performing curettage on a uterus of over 12 weeks gestation. If curettement is contraindicated by uterine size or a closed cervix, an intravenous infusion of Pitocin in relatively high concentrations will usually effect cervical dilatation.

Haugen and Roden[5] advocate digital curettement in preference to instrumental curettement.

Knapp, Platt, and Douglas[6] advocate panhysterectomy when the consistency of the uterus is soft and boggy, indicating gross infection, especially if parametritis or peritonitis is present. The operation should be performed before acute renal failure develops, and it may be lifesaving.

Renal failure manifested by anuria or oliguria is a later problem, but of prime importance. Patients who survive the initial insult may present a serious problem of electrolyte control, especially when prolonged continuous use of an intravenous vasopressor has been necessary. Their outlook will depend in part upon the extent and character of the renal lesion. Electrolytes should be given intravenously as their need is indicated by the laboratory findings. Total fluid intake must be rigidly controlled in renal failure.

Discussion

Case 1 was the first case of vascular collapse due to sepsis recorded in our Department, and it serves to illustrate several important points. This patient had a history of criminal interference with pregnancy and was undergoing a septic process when she entered the hospital. She had a relatively quiet 24 hours following her abortion, but suddenly developed signs of vascular collapse.

One of the common errors in managing these patients is overhydration, and this happened with this particular patient. She had a total of 4,500 cc. of fluid in the 24 hours following her initial insult. This was reflected in the autopsy findings of marked pulmonary edema and congestion.

This patient also was given ordinary doses of antibiotics in the postabortal period. I am now of the opinion that in all septic abortions the patient should have massive doses of antibiotics regardless of how "normal" her recovery appears.

This patient did not have uterine curettage, partly because she seemed clinically unable to withstand anesthesia and partly because of procrastination and not wanting to curet an infected uterus. However, I am now of the opinion that all these patients should be curetted within the first 12 hours of hospitalization, as soon as the blood pressure is brought under control. At autopsy there was no evidence of retained tissue; however, a very small nidus will serve as a focus of infection in these cases.

Case 2 differed from Case 1 in that we were not only dealing with a septic process, but also a hemolytic process. It was obvious from hour to hour that this patient's jaundice was increasing; this was substantiated by the laboratory findings of decreased clotting time and fibrinogen levels. This patient's liver and spleen enlarged perceptibly from hour to hour. She was not overhydrated as was the patient in Case 1. She was also manually curetted.

The blood cultures in both Case 1 and Case 2 were negative. This was thought to be because of the massive antibiotics which these patients had received prior to obtaining the blood culture. The uterine culture in Case 2 was positive as indicated.

Numerous cases of septic abortion and cases of chorioamnionitis and placentitis have been managed in our Department with early curettage combined with massive doses of antibiotics with no complication such as vascular collapse. Even with intensive care some of these women will proceed to vascular collapse, and mortality may reach 50 per cent or higher. This is particularly true if the organism is especially virulent, if the woman delays in seeking care, or if intensive care is not efficiently provided in the first few hours after vascular collapse occurs.

If vascular collapse does occur despite adequate care, the woman's best chance for survival depends

upon the prompt institution of measures to support the blood pressure, to combat the infection, and to avoid renal damage.

Summary

Clinical and pathologic findings have been presented in two cases of septic abortion with septic shock which terminated in death. The pathologic physiology has been discussed and the physiologic basis for treatment outlined.

A general discussion of the current armamentarium in the management of these cases has been presented.

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A study of 16 cases of aspirin poisoning

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Acetylsalicylic acid was synthesized by Von Gerhardt in 1853 and introduced for the treatment of rheumatic fever in 1899. And as aspirin is perhaps the most common medication used today, it is more available than any other medicine in the home. It has been prepared in a variety of shapes and colors for commercial purposes, and is being used in the treatment of every known ailment. In the United States, 9 million pounds of aspirin are used yearly.[1]

The Committee on Toxicology of the Council on Pharmacy and Chemistry and the Committee on Accident Prevention of the American Academy of Pediatrics[2] have reported aspirin and methyl salicylate as the salicylates most often involved in childhood poisonings.

Aspirin has been considered a harmless medication by parents, and careless handling has made it available to young children, resulting in death of many children every year from salicylate poisoning. Gellis[3] has remarked that flavored aspirin creates the impression of candy in the child's mind; this appears to play an important role in poisoning.

The most common use of salicylates is for its antipyretic effect. Whenever a child has a fever, the parents immediately give him aspirin "to bring down the fever." While aspirin does have an antipyretic action, it also has a paradoxical reaction, namely, production of hyperthermia. In their antipyretic action, salicylates increase heat production; increased heat production results in increased evaporation of body water (insensible water loss from the lungs because of increased respiratory rate), plus production of sweat (increased water loss from the skin). The evaporation of sweat requires heat, which is taken from the body, and the temperature drops. However, increased water loss creates a state of dehydration, and when dehydration interferes with water expenditure, hyperpyrexia develops.

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Salicylism can develop from therapeutic use and improper dosage. Breaking a 5-grain tablet into halves, thirds, or quarters predisposes to overdosage, since it is impossible to break a tablet so as to insure accurate dosage. In an infant, 60 mg. of aspirin will produce a blood level of 4 mg. per 100 cc. of blood 4 hours after ingestion; if an infant is given 80 mg. (1.25 grains) every 4 hours for 24 hours, the level will be 20 to 24 mg. per 100 cc. of blood. A blood level of 30 mg. of 100 cc. of blood is considered toxic, and a level of 50 mg. of 100 cc. indicates severe toxicity.[1] Hyperpnea develops when the blood level reaches 45 mg. per 100 cc., which may be produced by therapeutic dosage. Add to this the metabolic acidosis and dehydration associated with acute infectious processes, and it is easy to see how salicylism can be superimposed upon an already acute illness in a child.

Pathogenesis

Clinical findings of salicylate intoxication are as follows: hyperpnea, respiratory alkalosis, metabolic acidosis, dehydration, hyperglycemia, and hypoprothrombinemia.

The hyperpnea of salicylate intoxication can perhaps be explained by two factors: (1) Salicylates precipitate or increase metabolic acidosis; but this is an assumption, since the cause of metabolic acidosis is unknown,[1] and may be due to renal loss of sodium and potassium or to the accumulation of organic acid metabolites. (2) Salicylates in high concentrations sensitize the respiratory center to carbon dioxide, resulting in rapid breathing. Hyperventilation leads to loss of water and carbon dioxide, producing respiratory alkalosis. The urine becomes alkaline, discharging bicarbonate, sodium, and potassium, as a result of renal adjustment to the primary respiratory alkalosis. A further result of this is an increase by conservation of chloride and a reduction of plasma bicarbonate. In acute respiratory alkalosis there occurs an exchange of hydrogen ions from cells for extracellular action, and organic acids move from cells to extracellular fluid to elevate organic anion concentration of the serum.[4] These are the body's attempts to restore pH toward normal and re-establish physiologic homeostasis.

Body metabolism is increased in salicylate poisoning, resulting in increased oxygen consumption and increased carbon dioxide production in an attempt to convert the state of alkalosis into one of respiratory acidosis. This mechanism is not effective, however, since the loss of carbon dioxide by hyperventilation is greater than the production of carbon dioxide by increased metabolism.

Disturbances of carbohydrate metabolism have been shown in human beings, as well as by animal experimentation, to increase the rate of glucose absorption from the gastrointestinal tract, increase the production of adrenal corticoids, and interfere with the normal metabolism of glycogen. Derangement of carbohydrate metabolism causes an increase in the utilization of fat. The increased lipid metabolism results in ketonemia and ketonuria. The mechanism for the development of ketosis is perhaps the greater increase in the production of ketones beyond the rate of tissue utilization and renal excretion. This, plus the increased production of lactic and pyruvic acid and impairment of renal function, contribute to the development of a state of acidosis.

Hyperpnea or gasping respirations may be present in metabolic acidosis, but are characteristic in salicylism. The increased pulmonary ventilation results in respiratory alkalosis, which in itself has little clinical importance other than that it might lead to tetany. However, hyperventilation and sweating result in increased water expenditure which is further increased by vomiting. Vomiting, which may be due to a central effect or local irritation, not only increases fluid loss from the body but also interferes with adequate replacement. These are the factors that contribute heavily to the production of dehydration seen in salicylate poisoning.

Diagnosis

The only sure way to make a diagnosis, before withdrawal of blood for salicylate levels or by performing a gastric lavage, is from an accurate history. The effects of salicylate intoxication are hyperventilation, dehydration, thirst, sweating, fever, confusion or delirium, excitement, disorientation, acetone breath, and glycosuria. Severe intoxication produces peripheral circulatory collapse, convulsions, anuria, high or low blood sugar, hemorrhage, and respiratory collapse.

Necessary laboratory studies include plasma carbon dioxide combining power, plasma pH, plasma electrolytes (sodium, potassium, and chloride), blood and urine salicylate levels, and urine pH. Examination of vomitus and/or gastric contents recovered or removed by lavage aids in diagnosis.

Treatment

Peak blood levels of sodium salicylate may be reached in 1 to 1½ hours. Some is lost in sweat; 20 per cent is oxidized by the tissues; and 70 per cent is excreted in the urine over a 15- to 30-hour period.

If the patient is seen before the development of hyperpnea, gastric lavage is imperative and may be the only form of treatment needed other than hospitalization for 24 to 48 hours for observation. If, during this time, no further symptoms develop, the child may be discharged.

Once hyperpnea has begun, little improvement is to be expected from gastric lavage. Nevertheless, it should still be done to remove any salicylate that may be retained in the stomach.

Recently Arnold, Hodges and Barta[5] have advocated the use of syrup of ipecac, 1 tablespoonful, repeated in 15 minutes if emesis has not occurred. It is the opinion of these authors that emesis produced in this manner is more beneficial than the usual method of gastric lavage using water or saline solution; sodium bicarbonate solution should not be

TABLE I—CLINICAL DATA IN 16 CASES OF SALICYLATE POISONING

Case no.	Age (months)	Sex	Weight (pounds)	Amount taken (grams)		Duration before admission (hrs.)
1	24	F	23	3.0		26
2	26	M	26	1.5		1*
3	30	M	28	3.0		1*
4	36	M	30	24.0		3
5	47	M	34	2.5		1*
6	26	F	23	2.0		1*
7	39	M	30	2.0		1*
8	17(Y)	F	98	26.0		5½
9	9	M	22	1.6		2
10	18	M	29	1.0		1*
11	36	F	28	3.0	(Bufferin)	2
12	30	M	30	4.1		1*
13	24	F	26	6.6		14
14	35	F	32	2.0		2
15	20	M	23	1.6		1*
16	38	M	34	5.0		1*

*One hour or less

used in the lavage fluid because the absorption of salicylates may be increased.

Salicylate intoxication characteristically produces a fluctuating and inconsistent state of acid-base balance. The marked dyspnea results in a loss of carbon dioxide, producing a state of respiratory alkalosis with its associated low carbon dioxide combining power, while salicylate, being a strong acid, produces a concomitant metabolic acidosis. Fluid therapy, therefore, should be guided by the blood pH and directed toward the correction of the metabolic acidosis rather than guided by the carbon dioxide combining power. To do the latter would necessitate the use of acid fluids and serve to increase the degree of metabolic acidosis already present. In a hospital unable to test for blood pH, the history, clinical evaluation, and carbon dioxide combining power must guide one to determine whether the patient is in metabolic acidosis or respiratory alkalosis and treat him accordingly.

The increased respiratory rate not only disturbs the acid-base balance of the body but also greatly increases insensible fluid loss from the lungs. This, plus associated vomiting which causes additional loss of fluid, produces a disturbance in the fluid and electrolytic balance of the body, resulting in a state of hypertonic dehydration or hypernatremia.

Although mixed disturbances of respiratory alkalosis and metabolic acidosis have been reported by various authors,[6,7] it has been further noticed by other authors[8,9] that in the young child the phase of respiratory alkalosis may be very brief, only a few hours. Kapland and del Carmen[8] had not observed respiratory alkalosis in patients with salicylate poisoning who were less than 2 years old.

Two additional factors must be given consideration in the use of fluids in the treatment of salicylism, namely, disturbance of carbohydrate metabolism and replacement of potassium, which is also freely excreted.

In view of the above facts, the following regimen of fluid and electrolytic therapy is suggested: (1) a hypotonic solution composed of 100 cc. sixth-molar sodium lactate, 200 cc. of isotonic saline, and 700 cc. of 5 per cent glucose in water; (2) this solution in an amount equivalent to 100 to 125 cc. per kilogram of body weight per 24 hours; (3) 20 cc. per kilogram of body weight given within the first half hour, 15 cc. per kilogram of body weight in the second half hour, and the balance at a rate that will permit it to be utilized in the following 23 hours; (4) following this, or as soon as renal function has been established, the remaining fluid may be replaced with a so-called maintenance fluid, one containing potassium, such as Butler's solution.

Recently the use of Diamox has been reported[10] in the treatment of salicylate intoxication as follows: one part sixth-molar sodium lactate and 5 parts 5 per cent glucose intravenously, in the amount mentioned above (100 to 125 cc. per kilogram of body weight per 24 hours). When diuresis has been established, potassium chloride is added to the solution in quantities of 2 to 3 mEq. per kilogram of body weight. At the same time, an intramuscular injection of Diamox in a dose of 5 mg. per kilogram of body weight is given and is repeated at 4-hour intervals for two additional doses. If tolerated, oral fluids may be given as desired by the patient.

In studies by MacPherson, Milne, and Evans[11] and Schwartz and associates[12] the metabolic acidosis did not become worse at any time after giving acetazolamide (Diamox). However, continuous evaluation of serum carbon dioxide content and pH were performed, and large doses of sodium bicarbonate had to be administered. Diamox inhibits carbonic anhydrase; it raises the pH of urine by enhancing the excretion of sodium and potassium in place of hydrogen, thus causing increased rates of excretion of salicylate. "It is important that the means employed to remove salicylate be less dangerous than the intoxication itself."[13]

Most authors dealing with the problem of salicylate intoxication have recommended use of vitamins C and K. Vitamin C is usually given in doses of 300 to 400 mg. per day and vitamin K in doses of 5 to 10 mg. every 8 hours, intramuscularly, for 3 days. Stern[1] has suggested 1 mg. of vitamin K, or approximately enough to counteract 1 gram of salicylate.

Other methods of removing salicylate from the body include exchange transfusion, extracorporeal hemodialysis, and intermittent peritoneal dialysis. These methods are too complicated for the average small hospital and are practical only in a large institution with specially trained technicians.

Discussion

The hyperpnea resulting in a marked increase in insensible water loss from the lungs, the additional fluid loss from vomiting, plus further fluid loss from

sweating, result in the development of hypertonic dehydration with its deleterious effect upon renal function. Therefore, the first consideration is to replace the fluid lost and return the kidneys to their normal activity. This is accomplished by supplying fluid in quantities amounting to 100 to 125 cc. per kilogram of body weight, although as much as 200 cc. per kilogram of body weight might be needed if the state of dehydration is extreme.

It is well known that the elimination of salicylate is greatly enhanced by an alkaline urine; therefore, it might seem rational to use an alkalinizing solution such as sixth-molar sodium lactate or sodium bicarbonate solution to achieve this effect. The fault of this reasoning lies in the fact that to produce an alkaline urine with either of these solutions and at the same time supply enough fluid to correct the state of dehydration would be to administer such a large amount of sodium that a state of metabolic alkalosis and tetany and/or hypernatremia would be precipitated.

Preferably a hypotonic electrolytic solution, supplying a slight excess of the sodium radicle over chloride plus some lactate, should be used. Such a solution can be prepared as follows: 100 cc. of sixth-molar sodium lactate, 200 cc. of isotonic saline, and 500 to 700 cc. of 5 per cent glucose solution (47.7 mEq. of sodium, 30.8 mEq. of chloride, and 16.6 mEq. of lactate).

If a state of extreme acidosis is seen, wherein it might be felt urgent to correct this gross abnormality, the alkalinizing effect of this hypotonic solution could be increased by increasing the amount of sodium lactate accordingly. The determination of the amount of sodium lactate necessary to achieve the desired results can be decided by following a simple formula: 1.8 cc. of sixth-molar sodium lactate per kilogram of body weight will elevate the carbon dioxide combining power by 1 volume per cent. It is advisable to make the estimation up to 30 volume per cent, rather than to the normal of 40 to 50 volume per cent. Where the laboratory reports the carbon dioxide as milliequivalents rather than volumes per cent the following formula is used: 4.2 cc. of sixth-molar sodium lactate per kilogram of body weight will elevate the carbon dioxide by 1 mEq. Here use 14 to 15 mEq. as the goal, not 18 to 20 mEq.

The development of hypopotassemia is one of the prominent associated electrolytic disturbances in salicylate intoxication, and potassium must be replaced if homeostasis of body fluids is to be achieved. However, one important precaution needs to be observed, namely, that there be no attempt at potassium replacement until an adequate urinary flow is established. At this time, potassium may be added to the intravenous solution as potassium chloride, in a quantity equivalent to 2 to 3 mEq. per kilogram of body weight.

Diamox has been shown to increase the elimination of sodium and potassium; it is for this reason that this drug has been recommended in the treatment of salicylism. If these two electrolytes are replaced intravenously while they are being eliminated by the kidneys, a state of hyponatremia will be prevented while the elimination of salicylate will be maintained at a maximum degree.

A tendency to bleed may be due to a low prothrombin value, and vitamin K should be given. Vitamin C has been shown to be excreted in experimental salicylate poisoning and should also be given to patients with this problem. Clinical tetany may

TABLE II—CLINICAL DATA ON ADMISSION

Case no.	Total CO_2 content (mmol/L)	pH of Blood	Na (mEq.)	Cl (mEq.)	K (mEq.)	Urine pH (admission)	Urine Salicylate (mg.%)	Blood Salicylate (mg.%)
1	5.4	7.29	120	100.6	4.3	5.5	+	——
2	—	—	—	—	—	6.5	+	——
3	29.5	—	—	117.0	—	7.0	+	7.5(0)*
4	16.2	—	142	113.8	5.9	5.0	+	40.1(0)*
5	20.5	—	—	112.1	4.2	5.5	+63(6)*;45(15)*	31.0(0)*;15.2(8)*
6	12.2	—	140	115.5	4.2	6.0	+37(0)*;35(6)*	17.8(0)*;14.4(2)*
7	23.1	—	153	102.3	4.7	6.5	+43(0)*;12(14)*	8.23(0)*
8	22.7	—	150	103.9	4.0	7.0	+88(0)*	36(0)*;27.5(13)*
9	14.0	7.50	131.2	113.8	—	6.5	+68(2)*	——
10	—	—	—	—	—	6.5	+	——
11	9.5	—	119	113.02	4.4	5.5	+39(6)*;7(28)*	15.6(0)*
12	19.2	—	149	103.9	4.4	6.0	+94(0)*	16.9(0)*;20(8)*
13	12.7	7.31	155	112.2	5.2	6.0	+77.5(0);187.5 (18);132.5(24); 150(32);71.3(40); 6.25(51)	75(0);47.5(18)
14	20.1	—	146	123.7	4.7	6.0	+77.5(3);16.5(27)	29.25(0)
15	21.6	7.40	140	103.9	4.9	5.5	+80(2);35.5(27)	24.(0)
16	18.0	—	136	108.9	4.7	5.0	+17.5(1);32.5(25)	32.3(0)

Asterisk (*) denotes the time the blood or urine was obtained from the patient.

be precipitated in correcting a low potassium concentration in the presence of a low calcium concentration. It is practical to give calcium where there may be symptoms of the postacidotic state of hypertonic dehydration. Usually the amount of calcium given, as calcium gluconate, is 10 cc. of a 5 per cent solution in enough saline solution to reduce it to a 2 per cent solution.

All children in the present study except those in Cases 7 and 8 had concomitant upper respiratory infections, and all were under 4 years of age except the girl in Case 8. Case 11 was included in this study; this patient was treated for salicylate intoxication even though he had ingested 3 grams of Bufferin. All patients had vomited prior to hospitalization and all except those in Cases 1, 4, 8, 11, and 13 had gastric lavage on hospital admission with physiologic saline solution and/or water. (Before instilling any fluid when lavage is performed, it is important to aspirate first. The introduction of lavage fluid may hasten the passage of ingested material through the pylorus into the duodenum and hence increase absorption of ingested poisons.)

Those patients who did not have gastric lavage were the more difficult to control, as noted in Case 1, which is discussed in detail later in this paper. The patient in Case 8 was admitted 5½ hours after ingestion of 26 grams of aspirin in a suicidal attempt. This patient consumed the aspirin over a period of ½ hour; an hour later she had already begun to vomit, and aspirin was noted in the vomitus. The fact that she did not have symptoms of respiratory distress could be attributed to the spontaneous emesis, which prevented salicylate absorption in excessive amounts.

In Case 4, a 3-year-old boy ingested 24 grams of aspirin and, on admission 2 hours later, was hyperventilating, perspiring, and was pale in appearance. The child had been under treatment with aspirin for tonsillitis, pharyngitis, and bilateral otitis media. Over a period of 36 hours he received intravenous fluids which consisted initially of the hypotonic electrolytic solution previously described, with sufficient sodium lactate to elevate his serum carbon dioxide to 13.5 mEq. 14 hours after admission. Ascorbic acid, calcium gluconate, and potassium chloride were given intravenously; vitamin K, sedation, and antibiotics were given intramuscularly.

In Case 11, a 3-year-old girl had eaten 30 Bufferin tablets, and had vomited prior to admission to the hospital, which was 1 hour after ingestion of the "candies." She received the following solutions: the initial solution was the hypotonic electrolytic solution, to which was added 10 cc. of 10 per cent calcium gluconate and, since the child was voiding adequately, 20 mEq. of potassium chloride. Appropriate amounts of sodium lactate were added to the solution after laboratory results of carbon dioxide were known; this was determined every 8 hours. At 18 hours her serum carbon dioxide was 20.5 mEq.

Only 6 patients received intravenous fluids: those in Cases 1, 4, 5, 6, 11, and 13. The others were seen early, had vomited prior to admission, and had received prompt gastric lavage; it was elected to observe these patients for 48 hours.

No patient had any evidence of hemorrhage except in Case 1, who developed hemoglobinuria on her fourth hospital day.

Since the blood salicylate levels exceeding 30 mg. per 100 ml. of blood are associated with clinically evident degrees of intoxication, all patients were checked for blood salicylate levels when possible. It has been shown that the correlation of salicylate levels of blood with the clinical severity is poor in infants and children; this was true of the patients observed in this study.

It is difficult to have measurements for whole blood pH when desirable. Under these circumstances the clinical impression of the patient determined the fluid to be given.

Illustrative case report

A 24-month-old white female was admitted to Pontiac Osteopathic Hospital 26 hours after ingestion of 3 grams of aspirin, over an interval of 12 hours. The child had been given aspirin for an upper respiratory infection. The evening prior to hospitalization, she had been having some respiratory distress, was irritable, and had been vomiting.

The physical examination was noncontributory except for pallor, lethargy, irritability, strabismus, and the presence of lateral nystagmus to the right; other evidence of central nervous system irritability was not evident. The child was put in an oxygen tent and an intravenous solution containing 150 cc. of sixth-molar sodium lactate, 200 cc. of physiologic saline solution, and 700 cc. of 5 per cent glucose in water with 250 mg. of ascorbic acid was started; half an hour later 10 cc. of 5 per cent calcium gluconate was added. Antibiotics were started intramuscularly. The first serum carbon dioxide content was reported as 5.4 mEq. The intravenous administration was interrupted and 100 cc. of sixth-molar sodium lactate was given. Vitamin K, 5 mg. intramuscularly every 8 hours, was ordered for 3 days. An additional 150 cc. of sixth-molar sodium lactate was added when the recheck carbon dioxide value was 7.2 mEq., 4 hours after admission. Intravenous Cedilanid, 0.1 mg., was given for early congestive failure which occurred 12 hours after hospitalization; also, Solu-Cortef was given intramuscularly. The original intravenous solution was again interrupted when the 8-hour carbon dioxide value was reported to be 11.0 mEq., and another 100 cc. of sixth-molar sodium lactate was given, and another 0.1 mg. of intravenous Cedilanid. The initial hypotonic electrolytic solution was repeated. The 12-hour carbon dioxide content was reported as 9.9 mEq., and the 24-hour value was 9.1 mEq.; an additional 100 cc. of sixth-molar sodium lactate was given.

The 30-hour serum carbon dioxide was 13.5 mEq., and the child was started on oral electrolyte solutions. Small doses of phenobarbital were given

TABLE III—CLINICAL DATA IN CASE 1

Time (hours)	CO_2 (mmol/L)	pH	Na (mEq.)	K (mEq.)	Cl (mEq.)
0	5.4	7.29	120	4.3	100.6
4	7.2	—	148	—	108.9
8	11.0	—	124	—	100.0
12	9.9	—	134	—	115.5
24	9.1	—	—	—	—
30	13.5	—	135	4.6	99.0
36	19.8	—	136	—	99.0

intramuscularly during the period of intravenous therapy. The patient was given 0.2 mg. of intramuscular Digoxin daily as a maintenance dose. The 36-hour carbon dioxide value was 19.8 mEq.

The recordings of the cardon dioxide and electrolytes of this case are given in Table III. During treatment over the first 24 hours, 20 mEq. of potassium chloride were given intravenously. During the second day of hospitalization, the child convulsed and was given 3 cc. of 5 per cent calcium gluconate intravenously, which seemed to control the seizure; 7 cc. were added to the fluids running at the time. She also received 75 cc. of plasma and blood during her hospital stay. She was discharged on the seventh hospital day.

Complications

Problems which may occur in using any intravenous therapy can occur in the treatment of salicylate poisoning; these include cerebral and pulmonary edema. The use of nonelectrolyte solutions may produce water intoxication .Winters and coworkers[6] reported 2 cases of pulmonary edema occurring during initial rehydration. This may occur as a result of rapid hydration of a child who has not lost much total body fluid by hyperventilation, perspiration, and emesis, with or without high fever, and who may not be dehydrated. It occurs more frequently when nonelectrolytic solutions like 5 per cent glucose in water are used to correct the dehydration. One has to consider fluid absorbed during lavage and enemata given for hyperpyrexia.

Morphine probably should not be given for treatment of acute pulmonary edema since it may cause respiratory depression. Aminophylline can be used, but one should be aware of complications, mainly persistent vomiting and restlessness. The normal dose is 3.5 mg. per kilogram of body weight in 5 per cent glucose and water. Digitalization with a rapidly acting glycoside, which can be given intravenously, may be used. Humidified oxygen given by tent will be comforting to the patient. Bleeding tendencies due to thrombopenia should be treated with transfusion of fresh whole blood; bleeding tendency due to low values of prothrombin can be treated with vitamin K.

Summary

The determination of the carbon dioxide content without pH determination (since this procedure may not be available in the smaller hospital laboratory), and the use of six-molar sodium lactate instead of sodium bicarbonate as the alkalinizing solution, were used in the treatment of 6 patients with acute aspirin poisoning. The remaining 10 patients included in this study did not receive intravenous fluids because spontaneous emesis had occurred and they received prompt gastric lavage; these patients were under observation for 48 hours and required no further treatment. All patients, except one who had hypercapnea and some respiratory depression, responded to therapy within 24 hours. It is pointed out that even in a small community hospital, where the facilities are not as complete as in a large, well-endowed institution, adequate management of acute salicylism is possible.

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Acute benign pericarditis: Case report

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This condition, which is also known as nonspecific, viral, or idiopathic pericarditis, has been described in children only recently.[1,2] The disease usually follows an upper respiratory tract infection. The onset is generally acute, with fever and pain. A friction rub is usually present, but there are no significant murmurs. The electrocardiogram shows low voltage, elevations of the S-T segment, and T-wave inversion, which may persist for many months.

Real cardiac tamponade is rare. The illness lasts for several weeks, but it is benign. It has no aftereffects, but the disease may recur, even repeatedly. The treatment is symptomatic. The differential diagnosis must exclude rheumatic fever.

Case report

A 12-year-old white boy was admitted to Metropolitan Hospital on February 11, 1957, with a chief complaint of recurrent fevers, easy fatigability, and intermittent joint and muscle pains. The patient was ambulatory and in no apparent distress.

He had had a normal birth. His mother explained that he occasionally choked in the early days of his life, but there was no history of cyanosis. The patient had had whooping cough at age 1½, chickenpox at age 3, and measles at age 6. He had had a tonsillectomy and adenoidectomy at age 3, because of severe bouts of tonsillitis. During this time, he had also suffered from numerous allergies, among which were orange juice and several vegetables.

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At age 5, the patient had complained of pain in the left knee. No swelling, stiffness, or discoloration of this knee could be demonstrated. The pain would last for several hours and then disappear, only to recur every few days. While pain was present, a temperature elevation of 100 to 101 F was noted. He had continued to have intermittent pain in his knee for several years. In the last few years this had very much diminished.

Within the last 3 years, however, the patient had noted that he was unable to participate in as much exercise as his fellow students. He did not become short of breath, and there was no orthopnea, ankle swelling, or nocturnal dyspnea. He found that he simply got tired and was unable to run as fast or walk as far as the other children. Three weeks prior to admission, there were elevations of temperature which were intermittent, but not accompanied by any joint pains. The patient was given penicillin when the temperature was elevated.

On examination this boy was in no pain or acute distress. His height was 62 inches; his weight was 100 pounds; blood pressure in both arms was 100/60, and blood pressure in the left leg was 130/80; and pulse and respirations were within normal limits. Examination of the throat revealed a moderate postnasal drip, large lymphoid tabs over both tonsillar pillars, and an injected pharynx. The chest was symmetrical and the lungs were resonant. No abnormal sounds were present. The heart was normal as to size, rate, rhythm, and intensity. No significant murmurs were audible. The liver and spleen were not palpable. Examination of the extremities, particularly of the joints, disclosed no abnormalities.

A complete chest x-ray study with emphasis on cardiac disorders was ordered, the results of which were as follows: The osseus thorax was symmetrical and showed no evidence of developmental or destructive change. The lung fields were well

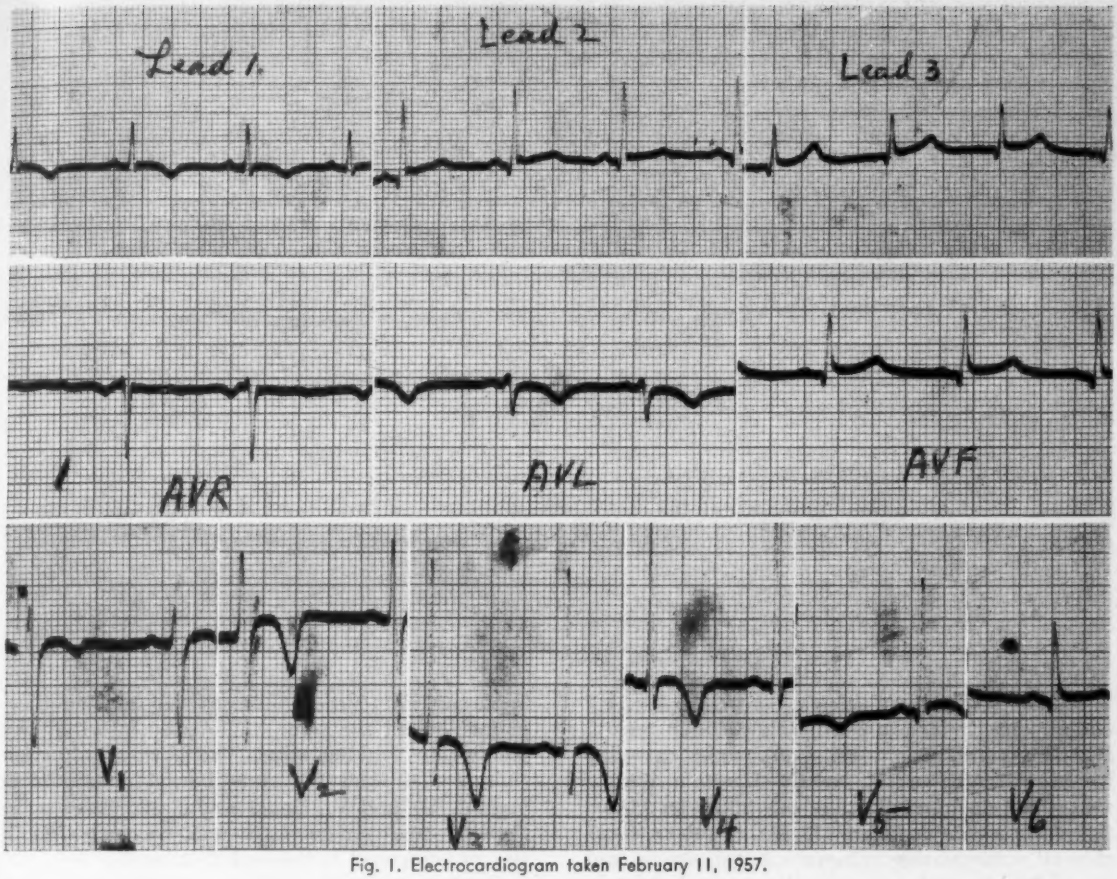

Fig. 1. Electrocardiogram taken February 11, 1957.

aerated, and there was no evidence of a gross consolidative or infiltrative process. The hilar and interstitial pulmonary markings were average in thickness and density. The cardiac shadow was average in size and contour, with preservation of the retrosternal and retrocardiac spaces. The opacified esophagus was average in position and contour. The mediastinal structures showed no evidence of widening or of displacement. The diaphragmatic domes were smooth and regular, and the cardiophrenic and costophrenic angles were clear.

A fluoroscopic examination demonstrated symmetrical pulmonary aeration with no abnormal mediastinal shift. Diaphragmatic excursions were within average limits. The cardiac rhythm was regular, and cardiac pulsations appeared to be somewhat more rapid than average and the amplitude of the pulsations was increased.

An electrocardiogram (Fig. 1) was taken on February 11, 1957, with the following results: Sinus rhythm was normal. Auricular and ventricular rates were 80 per minute. The P-R interval measured 0.14 second. The QRS complexes demonstrated vertical electrical positions and were 0.08 second wide. The S-T segments were slightly elevated in leads 2, 3, aVF, V_5, and V_6. The T waves were coved and inverted in leads 1, aVL, V_1, V_2, V_3, V_4, and V_5. Successive electrocardiograms taken every second day during the hospital stay showed an identical picture.

Laboratory data were as follows: hemoglobin, 12.5 grams; hematocrit, 42 per cent; and leukocytes, 8,000, with a differential count of 61 per cent segmented neutrophils, 37 per cent lymphocytes, 1 per cent eosinophils, and 1 per cent monocytes. A urinalysis had normal results; purified protein derivative test was negative; serology was nonreactive; and a blood culture was sterile. The sedimentation rate was 10 mm. at the end of 1 hour, which is considered normal at Metropolitan Hospital. The C-reactive protein test was negative; antihyaluronidase titer was 64 units; antistreptolysin titer was 96 units; the febrile agglutination series was negative in all dilutions; the viral series was negative; and the heterophil antibody titer was negative in a 1 to 8 dilution. On repeated tests, results were approximately the same.

During his hospitalization, the patient was kept at bed rest. For 10 days he was given penicillin tablets, 400,000 units three times daily, 2 hours after meals, and 10 grains of aspirin every 4 hours. His temperature, which varied from 99 to 100.6 F, returned to normal after 5 days of hospital stay.

After 14 days, he was discharged with a diagnosis of pericarditis of unknown etiology, and he was managed conservatively with bed rest at home for

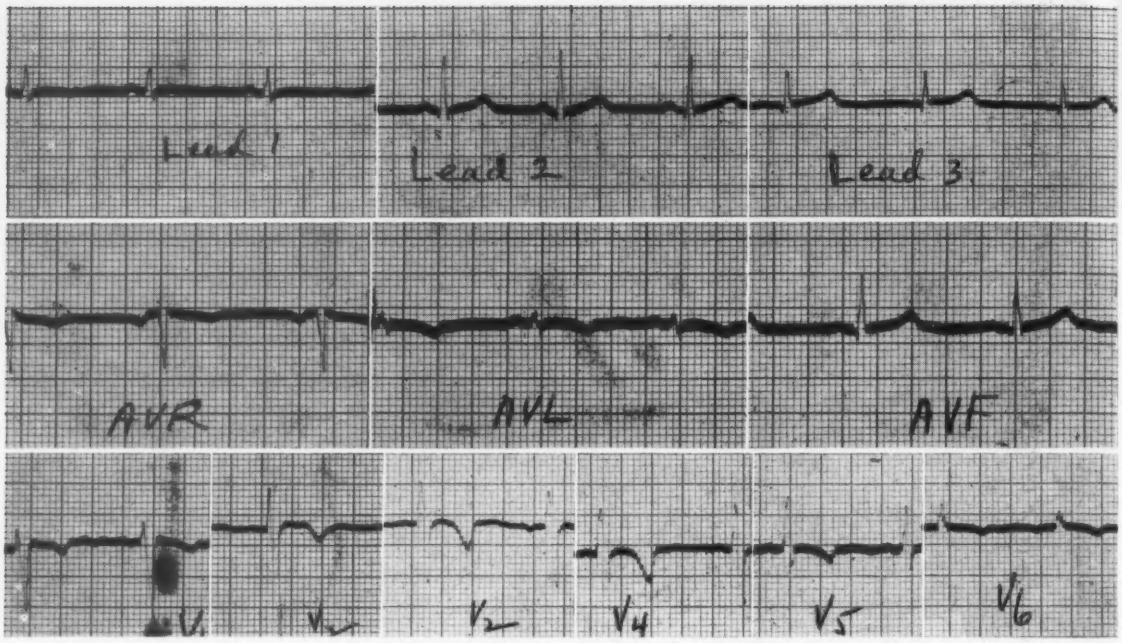

Fig. 2. Electrocardiogram taken November 23, 1957.

1 month. At that time, he was asymptomatic. He had no joint pain, chest pain, or shortness of breath. His temperature was taken several times each day by his parents, and it remained within normal range. An electrocardiogram was taken on March 20, and another on April 17, 1957. Both of these showed some persistent T-wave negativity in lead 1 and also over the apex in the precordial leads.

The blood sedimentation rate done by the Cutler method demonstrated a level of 7 mm. at the end of 1 hour. Fluoroscopic examination of the chest revealed a centrally placed heart of normal size and configuration. On barium swallow, there was no evidence of left atrial enlargement. The aortic arch was on the left side.

At that time, nothing further could be added concerning the etiology in this case. It has been known that inverted T waves may persist for this length of time in patients who have experienced episodes of pericarditis and myocarditis of a nonspecific, benign nature.

Since the patient's sedimentation rate was normal, he was permitted to return to school. It was suggested that this be his major activity for the time being, and that he be restricted from strenuous and competitive activities. It was further suggested that a repeat electrocardiogram be taken in 3 to 6 months, and thereafter until some change occurred toward the normal. The parents were advised that this type of attack of myocardial involvement could possibly recur. At this time, a diagnosis of acute benign pericarditis was made, since this diagnosis seemed compatible with the findings in this case.

On August 2, 1957, the patient was again examined. Since approximately May 1, 1957, he had been on almost full physical activity. He had suffered no important intercurrent illnesses. He had no complaints except for some vague discomfort in the feet when climbing steps. The electrocardiogram continued to show the same T-wave negativity in leads 1, V_5, and V_6. There was a slight and questionable improvement in these T-wave abnormalities, as compared to the earlier tracings.

On November 26, 1957, the patient was again examined. Physical examination showed him to be well developed and well nourished, with no respiratory distress or cyanosis. The blood pressure was 120/80, and the pulse rate was 72 per minute. No significant cardiac murmurs were audible. The femoral pulses were readily palpable. Fluoroscopic examination of the chest revealed a heart of normal size, shape, and position. An electrocardiogram had been taken on November 23 (Fig. 2), and it continued to show the flight flattening and inversion of the T waves in leads 1, V_5, and V_6.

Except for the electrocardiographic abnormalities which we know to have been present since February 1957, and perhaps for a longer period, there are now no cardiac abnormalities in this boy. These findings are now considered to have stabilized. For this reason, there was no need to restrict the patient's physical activity, except perhaps for strenuous competitive sports.

After 3 years of following the progress of this boy, his electrocardiogram is still similar to that taken on November 23, 1957. He is, however, completely symptom-free and his physical examination shows him to be healthy.

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EDITORIALS

THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

This periodical is the official publication of the American Osteopathic Association.

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A report to the membership (continued)

TRUE B. EVELETH, D.O., Executive Director, American Osteopathic Association

THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION for January 1961 carried a detailed report of the events leading up to the revocation of the charter of the California Osteopathic Association by action of the Board of Trustees of the American Osteopathic Association on November 20, 1960, on the basis of deliberate violation of established policy of the A.O.A. as enunciated by its representative House of Delegates. The resolutions outlining A.O.A. policy read as follows:

"That any divisional society which is in process of negotiations leading to unification and/or amalgamation or merger, or a process of a similar nature, of the osteopathic profession with or into any other organized profession involved in health care, shall cease such negotiations or be subject to the revocation of its charter by the A.O.A.

"That no divisional society enter into discussion or negotiations with any agency in which the subject for discussion is unification and/or amalgamation of the osteopathic profession into any other organized profession involved in health care."

As stated in the January report, the A.O.A. Board of Trustees revoked the charter of the California Osteopathic Association reluctantly but felt compelled to act in the best interests of the many D.O.'s in California and elsewhere who wish to preserve the osteopathic profession.

Following this action of the Board, A.O.A. President Harvey called a special meeting of the House of Delegates to meet in Miami Beach, Florida, on Saturday, January 21, 1961, "to consider and take action on certain amendments to the By-Laws of the A.O.A., on an application for charter of a new divisional society in California, and on such other business as may be properly presented."

At the midyear meeting of the Board of Trustees in Miami Beach preceding the meeting of the House, representatives of the proposed new divisional society in California were present to answer questions and to comment on the problems facing the new group in its efforts to set up an organization and take steps to preserve the osteopathic profession in their state. The Board heard Dr. Richard E. Eby, president; Dr. J. Gordon Hatfield, president-elect, and Dr. David Dobreer, secretary-treasurer of the Osteopathic Physicians and Surgeons of California, and several members of the Board of Trustees of the new organization. It was brought out in their statements that five ex-presidents of the C.O.A. are aligned with the new divisional society. After a lengthy presentation and discussion, the Board of Trustees of the A.O.A. voted to recommend to the House of Delegates that a charter be granted to the newly organized divisional society and that every effort be made to assist the new society in getting established and in working toward its announced goal—the maintenance of the osteopathic profession as a separate entity.

A well-attended meeting of the House was held on January 21 with nearly one hundred delegates present from thirty-four divisional societies.

Presentations were made by President Harvey and Executive Director Eveleth, refreshing the memory of delegates of events which precipitated

the revocation of the charter of the C.O.A. During the President's presentation to the House, a recent letter from Paul D. Foster, M.D., president of the California Medical Association, addressed to its members was read. In this letter he stated that steps had been taken by the C.M.A. to accomplish the goal of interprofessional unification.

The C.M.A. president said that almost 20 years ago the two associations in California reached agreement on a program which would have unified the two professions, stopped further licensing of osteopaths in California and converted the osteopathic college in Los Angeles into a Class A medical school. This proposal met with the approval of both the American Medical Association and medical educational authorities, but it failed to meet some technical requirements of state licensing boards, and it was stopped at that point.

He reported that in the 20 intervening years, educational and other leaders in both professional groups have kept alive the hope of eventual unification and that this hope resulted in the appointment, about 9 years ago, of a special committee of the C.M.A. to meet with a similar committee of the C.O.A. to probe further into such unification.

Several months ago, he said, these joint committees, both acting with the approval of the governing bodies of their respective associations, arrived at a general plan "predicated on the understanding that further licensing of osteopaths in California will cease. It would provide for the unification of presently practicing osteopathic physicians and surgeons with doctors of medicine. It would establish the present osteopathic college as a Class A medical school under thoroughly acceptable auspices."

Dr. Harvey said that the acquiescence of members of the osteopathic profession with such a suicidal plan is reprehensible and that the duty of organized osteopathy is clear-cut. He charged the House of Delegates that it must take all steps necessary to preserve the practice rights of osteopathic physicians in California as well as in any other state.

In Dr. Eveleth's presentation, he said that it seems incredible that prosperous, busy osteopathic physicians in California could come to the conclusion that their future is dependent upon abandonment of all that has brought them to their affluent status; that osteopathic physicians in California have apparently shirked their organizational responsibilities and permitted a small group of leaders to manage their affairs; and that they have, in effect, ignored their professional citizenship and surrendered their individual responsibilities.

The By-Laws of the C.O.A. state: "The object of this Association is to maintain the standard of education and to promote the welfare and influence of the profession of osteopathy." It would seem to even a casual observer that the recent activities of that organization in working toward the elimination of the profession of osteopathy in the State of California run counter to the "object" stated in its By-Laws.

The C.O.A. Board of Trustees has now adopted an arbitrary rule, titled "Miscellaneous Rule No. 41," which permits that Board, or its Executive Committee, to take disciplinary action against any member of the C.O.A. who joins or retains membership in "any State of California osteopathic organization whose objectives or policies are contrary to the objectives or policies of this Association." In other words, those persons who work toward the stated "object" of the C.O.A., "to maintain the standard of education and to promote the welfare and influence of the profession of osteopathy," are subject to discipline by that body for that very act.

After the presentations by the President and the Executive Director of the A.O.A., the House voted to hear any comment which Dr. Dorothy Marsh, president of the de-chartered California Osteopathic Association, who was present in the House, wished to make.

Thereafter, as its first action, the House of Delegates passed a motion to "endorse and commend the action of the Board of Trustees of the A.O.A. in revoking the charter of the California Osteopathic Association."

Then a motion to approve the recommendation from the Board of Trustees to the House of Delegates, "that the Osteopathic Physicians and Surgeons of California be chartered as a divisional society of the American Osteopathic Association," was passed without a dissenting vote.

The House of Delegates also adopted a motion directing the Board of Trustees of the A.O.A. "to continue to use any and all means to assure the continuation and development of the osteopathic profession and its educational institutions in the State of California in the public interest."

Dr. Richard E. Eby, president of the new divisional society, spoke to the delegates, expressing the desire and intent of the new group to do everything possible to maintain the osteopathic profession as a vital force in the State of California and to work with the A.O.A. toward the accomplishment of this objective. As background leading up to the action of the A.O.A. House, Dr. Eby reported that "After the action of the House of the C.O.A. on November 13, it became evident to a statewide group of A.O.A. members in California who had been watching the evolution of this osteopathic problem in the West that if we were to remain a distinct profession we must recognize the motives which were activating the C.M.A. as well as the C.O.A.

"These motives have been obscured. They have not been specifically stated in writing nor in speaking, but many of us feel that we can now pretty well discern the outline of the pattern. To us it would appear that this evolutionary process over the years was that of eliminating the D.O. in California first as a prelude to his elimination in the nation. On a state level it was to eliminate the effectiveness of the separate osteopathic board. Lately it was to acquire the facilities of our osteopathic college and its associated county hospital, which

is its training institution, by those in the state who realize the necessity of increasing the output of M.D.'s and who find that by acquiring our college at this time they could accelerate their program by 10 to 12 years.

"After the vote on November 13 by the C.O.A. House, there was a spontaneous reaction on the part of many in California to identify themselves immediately with the profession as a whole. These people felt that they represented the majority of the profession and not the minority; that the osteopathic profession is not just Californians but it is all who bear the D.O. degree; and that, as such, those of us who were sympathetic to the feeling that we must remain at this moment in our history a separate and distinct profession by more closely identifying ourselves with the efforts of D.O.'s everywhere who were of this like spirit, could more effectively serve the public in California.

"We knew the problems. We did not know the solutions. We offered our hands to the profession if they would supply the muscles. We got together and agreed on certain beliefs. We believe that the osteopathic profession offers a concept and a contribution not provided at this moment in history by the allopathic profession. We further believe that the people of California gave to the osteopathic profession a trust and a mandate to provide a separate and distinct school of therapy.

"We feel that the problems at the state level are of national scope in their solution and cannot be properly solved by divisional activity. We believe the College of Osteopathic Physicians and Surgeons and its county hospital are vital links in the osteopathic educational program and should not be used as pawns in negotiating for a third-rate M.D. degree which would be recognized within state boundaries only.

"We further believe that the designation of cultism must be removed before anyone can effectively, morally and honestly sit down at a bargaining table.

"We further decided that a group must be formed in California to establish effectively a link with the thinking of the D.O.'s in the other parts of the country."

Dr. Eby reported that 2 days after the A.O.A. Board had taken action which clarified the position of the D.O. in California as to his relationship to the A.O.A., a group began to form comprising D.O.'s from different parts of the state, who decided that it was desirable and right to form a new society in California. Basic documents were formulated which declared the purposes of the new society to be as follows:

"The specific and primary purposes for which the Corporation is formed are:

"1. To publicly register and record the 'system, method or science of osteopathic medicine' as a 'School of Medicine' and/or the practice of same, to be known and designated as Osteopathic Medicine, coordinate with and of equal rank and grade as lawfully accorded the other Schools of Medicine, under the laws of California pertaining to same; to advance the science of osteopathic medicine as an independent, scientific and complete system and/or school of 'Medicine and/or Healing Art' for the restoration and preservation of health. The term school as here used means system and not an educational institution.

"2. To carry on programs of education and information for the benefit of all members of the osteopathic medical profession and to stimulate and maintain high morale and pride in all persons engaged in the practice of osteopathic medicine with the end in view of contributing toward the efficiency and service to the public of doctors engaged in the practice of that branch of the healing arts known as osteopathic medicine and those aspiring to become so engaged.

"3. To develop, stimulate and encourage the fraternal and social relations and good will among the members of the profession.

"4. To keep members of the osteopathic medical profession informed pertaining to pertinent matters of an educational or professional nature.

"5. To keep doctors of osteopathic medicine informed as to the progress, direction and accomplishments of the American Osteopathic Association."

Dr. Eby said that, "in the reading of these purposes we can best express what was in the minds of those of us in California who wish to remain identified as D.O.'s." He said: "We must grasp the opportunities of today and tomorrow to serve the public as a complete, progressive, proud profession. This is your problem, our problem. We are pleased and privileged to play a part in its solution."

After this presentation and the introduction of the officers of the new divisional society who were present in the House, a motion was passed commending the members of the Osteopathic Physicians and Surgeons of California and welcoming them into the fellowship of affiliation as a divisional society of the American Osteopathic Association.

As another recent development in the over-all problem, we report that early in January steps were taken by members of one of the specialty colleges, the American College of Osteopathic Obstetricians and Gynecologists, to prepare amendments to its By-Laws based upon the belief "that (1) all of our specialists have grown in stature sufficiently to now become autonomous, and (2) that [the continued status of] an individual who has attained recognition as a specialist based on his graduate education, training and proven ability should not be predicated upon membership in certain organizations."

The amendments to the By-Laws of the A.C.O.O.G. proposed deletion of the provision that each member of the College continue his membership in the A.O.A., his divisional osteopathic society, and his local osteopathic society in order to maintain his membership in the A.C.O.O.G., and to remove provisions for the control by the A.O.A. of its affiliated specialty groups. The amendments were presented to the membership of the College

during its annual meeting in Las Vegas, Nevada, February 6 to 9, 1961. The vote was one short of the necessary two thirds required for the adoption of the amendment.

These proposals are in direct contravention of established requirements of the A.O.A., and, in particular, the two here quoted:

"Each of the specialty colleges or societies shall include in their by-laws under 'Requirements for Membership' the following statement:

"An applicant shall be a member of the American Osteopathic Association, his divisional osteopathic society, and his local osteopathic society. If elected to membership he shall continue to be a member in good standing of the American Osteopathic Association, his divisional osteopathic society, and his local osteopathic society. Failure to maintain these memberships shall automatically terminate his membership in the specialty college or society."

This move to disassociate specialists from the supervision of the A.O.A. which initiated and sponsored specialization standards and procedures is another move toward separation from the parent body and disunity within the osteopathic profession. These proposed actions, occurring at a time when other factors call for greater unity, are disturbing and should be given serious thought by all concerned so that ill-advised and disruptive actions will not be permitted to occur.

Since receipt of the letter referred to previously in this report, from Paul D. Foster, M.D., president of the California Medical Association, to the members of the C.M.A., a second such letter has been addressed to the delegates and alternates comprising the 1961 House of Delegates of the C.M.A.

In it Dr. Foster reports that, since the earlier letter, "negotiations have continued and *tentative* agreement has been reached between the two negotiating committees." He enclosed a copy of a report submitted to the Council of the C.M.A. by the Committee on Other Professions, and which has been approved by the Council. It is, he said, "a digest of the broad principles followed by both organizations in their discussions. The agreement to be drawn up for both organizations to approve will be based on these principles." (These "principles" were outlined in "A Report to the Membership" in the January 1961 JOURNAL.)

Briefly summarized, they are as follows: That the California Osteopathic Association make arrangements with the College of Osteopathic Physicians and Surgeons for the issuance of M.D. degrees to its graduates, and to other osteopathic physicians in California upon completion of a refresher course; that the College change its name, eliminating the word "osteopathic," and cease issuing D.O. degrees as soon as practical; that a new component society of the C.M.A. be formed, not limited as to geographical area, to which D.O.'s who acquire an M.D. degree from C.O.P.S. (or its successor) will become eligible for election to membership; that amendment to the Business and Professions Code will be sought which would permit recipients of the M.D. degree from C.O.P.S. to practice under one degree or the other as they so desire, but not under both, and would reduce the authority of the Board of Osteopathic Examiners so that it will function solely for existing Doctors of Osteopathy who elect to practice as such and will no longer issue new licenses to practice osteopathy.

As to timing, Dr. Foster listed the following procedure:

"1. A subcommittee which includes three California medical school deans is working on the many educational problems involved in the proposed plan.

"2. A special agreement for acceptance by both organizations is currently in draft form and is being refined by legal counsel for both CMA and COA.

"3. This agreement will be submitted to the CMA Council for approval. It will also be submitted to the Board of Trustees of COA for approval.

"4. If approved by both the above groups, the agreement would then be submitted to the CMA House of Delegates; if approved there, it would go to the House of Delegates of COA, meeting in May.

"5. If approved by all these bodies, the agreement would be binding on both sides and would be implemented as rapidly as possible. If approval is denied in any of the above steps, the agreement would be void."

One of the members of the A.O.A. in California has written cogently on the subject, and we quote some of his discerning statements:

"The osteopathic profession has prospered and progressed in California to the extent that organized medicine recognizes the threat to their monopoly. The C.M.A., as a part of the A.M.A., has taken action to combat that threat by an all-out campaign to split the C.O.A. and the A.O.A. into warring factions, by planting the seeds of destruction in our midst.

"Members of our profession in positions of authority have been flattered and impressed with the importance of their own thinking and actions to the very brink of professional suicide. . . .

"It is time for members of the C.O.A. to consider and realize the kind of deal we may expect to receive in any negotiations with the C.M.A. and the A.M.A. We should consider the fact that approximately 50 per cent of the practicing M.D.'s in California have no hospital connections or staff privileges. We should remember that the A.M.A. and the C.M.A. function under one of the most powerful and tightly controlled political machines ever to exist in a profession. It is time for us to reconsider the disadvantages of attempting to practice under a synthetic M.D. degree, which would not give us either any practice rights or allow us any representation in the organization which could, and would, take over our hospitals and school. Our entire state organization would be scattered and disbanded and our unity for practice rights lost. Our numerically fewer voices would never be heard in our own hospitals and the decisions would definitely *not* be

ours to make. Once the die is cast, we would be obliged to accept whatever the majority decided to take and *try* to like it. Reports have been circulated that this present crisis has arisen from seeds of dissension and destruction sown by the C.M.A. to the ultimate gain of organized medicine, with the elimination of the osteopathic profession.

"The sum total of the achievements of the individual members of the osteopathic profession is a measure of our progress in the health care of the nation. No M.D. degree will alter the achievement of the individual or the quality of the health care rendered by the individual.

"The arguments for amalgamation are many and varied, but the benefits to be expected are likely to be intangible and available to a select group. Any benefits to the majority of the members of the profession cannot be expected. On the contrary, the majority of the membership can expect to have their practice right abridged. Loss of hospital staff privileges is almost a certainty. . . .

"The osteopathic profession is the only group which is selling itself short. The public needs osteopathic medicine, and the competition we must give to organized medicine."

We have quoted at length from letters and documents so that the reader may judge for himself the seriousness of the events and actions already taken and contemplated. The tragedy is that certain members of the profession are aiding and abetting in the undermining of their own profession. That they would seriously consider the "deal" being offered to them is almost incredible. They would literally be "selling their birthright for a mess of pottage," if they were to agree to the terms laid down in the "principles" on which an agreement would be based.

The profession has made tremendous strides in its 6 or 7 decades and there are practically no limits to the further progress that it could make, with a unified front. Every state has enacted laws to enable members of the profession to practice within its borders; the federal government has provided for the inclusion of osteopathic physicians in most public health laws passed by Congress in recent years; socioeconomic agencies administering the health care program in this country are favorable to a profession such as ours, if united; industry and foundations are beginning to recognize and support osteopathic programs; and the public has asked that we continue to make available to them the care which only well-trained osteopathic physicians and surgeons can give. So why should a segment of the profession in one state now decide to raise a white flag? If the results of their proposed action would harm only themselves, it would be one thing, but their actions will have an effect far beyond the borders of their state. In the words of John Donne. "No man is an Island, entire of it self. Any man's death diminishes me, because I am involved in Mankind." So each of us is "involved" in the profession, and its diminution or repudiation by one group affects all of us.

This is a time for each D.O., each professional group, and each divisional society to stand behind the stated will of the profession as expressed by its representative body, the A.O.A. House of Delegates, which has declared as its policy that "only as a separate and distinct school of the healing arts can the osteopathic profession fulfill its duty to the public." Until and unless that policy is officially changed, it remains as the expressed will of the majority, and in a democracy, we are accustomed to abide by the will of the majority.

Osteopathic medicine can meet the challenge

In "A Report to the Membership," begun in the January JOURNAL and continued above, the Executive Director of the American Osteopathic Association presents a chronological review of the California situation and the position of the A.O.A. Below is presented, almost in its entirety, the Editor's Progress Notes from the January 1961 *Osteopathic Journal of Obstetrics and Gynecology*. Written by Dr. Roy G. Bubeck, Jr., of Grand Rapids, Michigan, and titled "Osteopathic Medicine Can Meet the Challenge," this editorial voices the reaction of many practicing physicians, particularly specialists, to the present development in California and in a specialty college.

Osteopathic medicine apparently has reached another crossroads in its short history. Many osteopathic physicians as well as some allopathic physicians and "interested lay people" seem to be of the opinion that the practice of osteopathy has reached the same point of existence that homeopathy reached not too long ago; namely, a period of disintegration and absorption by another major school of medicine.

It is discouraging to note that well-meaning people have decided that they possess the ability to see into the future and predict the fate of such a fine profession as ours. There are those in the profession who feel that they could best serve humanity by discontinuing the separate school of medical practice known as osteopathy and permit it to be usurped by the major medical profession. It is interesting to note that the amalgamation which is proposed in the State of California does not contain any absolute assurances that the individual privileges of the osteopathic physicians and surgeons could be preserved in such a union.

Many osteopathic physicians have raised money to build osteopathic hospitals to provide high-standard health care for their patients. Many osteopathic physicians have spent additional time and effort to train themselves to provide outstanding services. It seems that these efforts are being jeopardized by the desire of a few eager individuals to

place the future of osteopathy in the history book as a temporary school of medicine.

Fortunately some osteopathic physicians, who certainly have as much at stake as many others, have moved to stop this integration move before it became widespread in its activity. The osteopathic profession cannot afford to have its fortunes given away piecemeal by a few individuals in various sections of the country. The American Osteopathic Association has revoked the charter of the California Osteopathic Association and issued a charter to a group in that state who see fit to cooperate in building our profession to an even greater height of service.

It seems that this is the time for all individuals who are interested in preserving two separate schools of medicine with equally high standards to come to the front and assure the people of this country, as well as osteopathic physicians, of their desire to keep this profession separate. The time has come to exert all the force at our disposal to increase the knowledge, training, and ability of the members of this profession.

This is a challenge to those of us who feel that we should go it alone. We must build bigger and better hospitals; we must train more and more students in the various specialities; we must make available to those who have the ability all of the facilities for training and teaching that our profession has at its command. Each specialty in our profession must see to it that the graduates of osteopathic schools are given an opportunity to learn all phases of the profession. They must be given an opportunity to take postgraduate study second to none, as they engage in the practice of osteopathic medicine and surgery. Continuing education and advancement constitute a challenge which all osteopathic physicians and surgeons who are now in practice must meet.

It is not enough now to say that you have been well educated, well trained, and well specialized in a branch of the healing arts. It is not enough to have fulfilled the qualifications for specialty practice and to settle down to a comfortable life in that specialty. It is not enough to say that our hospitals have reached their goal and are providing excellent health service.

What is now needed is for those of us who have acquired additional training and hospital facilities in which to use this training to extend our learning and expand our facilities to the point where we can continue to keep pace with the modern trend in American medical care. If we do this, we cannot afford to amalgamate into one branch of service and go on as a single monopoly in medical care. If we do this, we can provide medical care on an equal standard, which is the American way of doing things. No one in this country objects to more than one religion, more than one labor union, more than one industrial plant, more than one business enterprise. Therefore, no one can object to more than one outstanding high-standard medical profession. Let us meet this challenge at this time as we stand at the crossroads and again go forward together as a profession dedicated to adequate health care of the people.

Medical history of World War II

Military medical history contains some of the important lessons of war. The skill gained by doctors under duress is of a different kind from that learned by careful research and contemplation; the inventiveness of the moment sometimes provides a happier solution to medical and surgical problems than could ever be achieved "the long way." This experience is useful in peacetime: witness the great advances in traumatic and plastic surgery that have grown out of wartime necessity. Further, the recording of these lessons would have great value in the unhappy event that physicians should ever again serve under combat conditions.

The medical history of World War II has been a long time in the writing, and it is not yet complete. Of the history of the U. S. Army Medical Department, for example, only fifteen of the projected forty-eight volumes have been published. The story of this history has been told elsewhere,[1] and it is a tale of difficulties and delays, with and without good reason.

However, the books that have been completed are worth noting. All are available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Titles in print and their costs are as follows:

Of the series *Surgery in World War II: General Surgery*, $4.25; *Hand Surgery*, $3.75; *Neurosurgery, Vol. I*, $5.00; *Neurosurgery, Vol. II*, $7.00; *Ophthalmology and Otolaryngology*, $5.00; *Vascular Surgery*, $4.25; *Orthopedic Surgery in the European Theater of Operations*, $4.00; *Orthopedic Surgery in the Mediterranean Theater of Operations*, $4.00; *Physiologic Effects of Wounds*, $3.50.

Of the series *Preventive Medicine in World War II: Personal Health Measures and Immunization*, $3.25; *Environmental Hygiene*, $3.50; *Communicable Diseases Transmitted Chiefly Through Respiratory and Alimentary Tracts*, $5.50.

Miscellaneous titles: *Cold Injury, Ground Type*, $6.25; *Hospitalization and Evacuation, Zone of Interior*, $4.00; *Tabulating Equipment and Army Medical Statistics*, $2.00.

Copies of this history are being sent to the libraries of the six osteopathic colleges, as well as the A.O.A. library, as titles become available. In addition, individual physicians are encouraged to obtain copies of their own, both to enhance their current practice and to prepare for that unhoped-for eventuality of another war.

1. Coates, J. B., Jr.: U. S. Army Medical Department in World War II. J. Am. M. A. 165:241-253, Sept. 21, 1957.

SPECIAL ARTICLE

White House Conference on Aging

LEONARD E. HEFFEL, Special Writer, Division of Public and Professional Service, American Osteopathic Association

Despite their good intentions to discuss all facets of the problem of aging, the 2,700 delegates to the White House Conference on Aging, held January 9 through 12 in Washington, D.C., found themselves involved in a political battle over only one issue—financing of health care—even before the conference began.

On January 5, Washington newspapers carried a story in which Wilbur J. Cohen, a professor at Michigan University who since has been appointed by President Kennedy as Assistant Secretary of Health, Education, and Welfare, charged that the conference was being "stacked" by organized medicine to oppose the plan to finance health care through Social Security.

The charge was denied 2 days later by Dr. E. Vincent Askey, AMA president, who accused Cohen of trying to "distort the truth and engage in reckless smears in an effort to mislead the people."

By the time the conference opened, AFL-CIO president George Meany who, it subsequently developed, had done some "stacking" of his own, had added more fuel to the fires by declaring that the AMA was less interested in health insurance than organized labor and gave the problems of the aged only "negative and hostile criticism" until other groups began to act.

Dr. J. Lafe Ludwig, chairman of the AMA's council on medical service, answered Meany by charging him with engaging in a "reckless campaign of rule-or-ruin and the public be damned." Dr. Ludwig said that Meany's "smear and hostility" tactics could wreck the conference.

In this atmosphere, hundreds of other topics up for discussion at the conference were almost lost in the ensuing power struggle between the AMA and organized labor.

Considering the many months of planning which went into the conference and the urgency of the problems being discussed, it is unfortunate that both the AMA and organized labor chose to use the meeting as a political sounding board.

The problems facing the nation's 17 million persons over 65 years of age go far beyond the issue of who should pay for their health care.

A pamphlet prepared by the Federal Council on Aging for delegates attending the White House Conference lists some of these problems.

Many persons 65 or older live on low, fixed incomes. Counted as individuals, 57 per cent of men had under $1,000 in income in 1958 and 80 per cent under $2,000.

Old age assistance benefits are intended as a minimum income to be supplemented by savings or by other income. However, taking into account all sources of cash income, 1 in 5 retired couples and nearly 2 in 5 aged widows had either no income in addition to old age benefits or less than $75 a person for the year.

Despite substantial evidence that older workers compare favorably with younger workers in productivity, stability, responsibility, and reliability, age discrimination in hiring continues to exist.

As age increases the impact of chronic illness becomes severe. More than half of persons 75 years and older are limited in their activities in varying degrees, thus further decreasing the possibility of finding employment.

Older persons often have poorer quality housing than younger families and have neither the desire nor the income to move from deteriorating properties in which they live.

The completion of early adult responsibilities leaves hours and years of free time which can profitably be used for personal enrichment or can, instead, become an overwhelming burden.

Compounding all these difficulties for elderly persons are the problems of deteriorating health and, often, the inability to pay for needed medical services.

Older persons spend nearly twice as much for medical care as the total population and yet barely half of them are covered by any kind of health insurance.

Older persons require and utilize many more health services than younger people. Persons over 75 years of age average more than seven physician visits a year. These persons often require an array of health services in addition to physician care including nursing service, health education, restorative services, home care, social services, and physical therapy.

In addition, older persons spend much more time in general hospitals than the young—an average of

1,778 hospital days per 1,000 persons as compared with 661 days per 1,000 persons under 65.

The need for additional medical care results from six chronic conditions—arthritis and rheumatism, heart disease, high blood pressure, impaired vision, impaired hearing, and diabetes—which are much more prevalent in persons over 65. In addition, over 3.5 million persons 65 and over suffer injuries each year, many resulting from falls in their home.

The White House Conference on Aging was launched in September 1958, when Rep. John E. Fogarty (D-R.I.) introduced the appropriate legislation and the 85th Congress gave its approval.

In the following 2 years all the states and territories surveyed their aging needs, held state conferences, prepared their recommendations for action, and submitted them to Washington. More than 100,000 citizens participated in this work in all states. In addition, some 308 national voluntary organizations, including the American Osteopathic Association, which have their own programs in the aging field were asked to participate in the conference.

Thus, this was to be a "grass roots" conference in which all problems of aging, medical, sociologic, psychologic, and economic, were to be discussed.

The conference consisted of ten groups arranged into twenty major discussion areas and 133 smaller workshops. The ten groups were assigned the following topics:

Group I—Population trends and social and economic implications; income maintenance; impact of inflation on retired citizens; and employment security and retirement

Group II—Health and medical care and rehabilitation

Group III—Social services and family life, family relationships and friends

Group IV—Housing

Group V—Education

Group VI—Role and training of professional personnel

Group VII—Free-time activities and recreation

Group VIII—Religion

Group IX—Research in gerontology, medical, biologic, and psychologic

Group X—Local community organization; state organization; national voluntary services and service organizations; and federal organizations and programs.

The immediate objective of the conference, as directed by the Advisory Committee, was the development of policy statements and recommendations in each of the twenty discussion areas which will be submitted to President Kennedy.

Policy statements were developed from recommendations of delegates at the workshop level, then voted upon, revised, and coordinated by delegates gathered in their respective major sections. The official policy statements of the twenty major sections were then presented at the two final plenary sessions of the conference. However, rules of the conference prevented all delegates from voting on the policy statements at the plenary sessions.

It was precisely this rule which resulted in the behind-the-scenes maneuvering by the AMA and organized labor in their effort to make the recommendations of a particular section seemingly represent the wishes of the entire conference.

Ten members of the American Osteopathic Association attended the conference. They were:

Dr. Roy J. Harvey, Midland, Michigan, AOA President, and Dr. Alexander Levitt, Brooklyn, N.Y., who served as delegates on invitation from the White House.

Dr. Charles Naylor, Ravenna, Ohio, AOA President-Elect, who was a special guest replacing Dr. True B. Eveleth, AOA Executive Director.

Dr. Vincent P. Carroll, Laguna Beach, California, AOA Past President, who served as a member of the Advisory Committee of the conference.

Dr. J. A. Walker, Royal Oaks, Michigan; Dr. P. R. Russell, Fort Worth, Texas; Dr. L. R. Hall, Kansas City, Missouri; Dr. J. B. Rapp, Glenn Riddle, Pennsylvania; Dr. N. V. Oddo, Long Beach, California, and Dr. O. L. Brooker, Livonia, Michigan, all served as state delegates.

Dr. Harvey and Dr. Levitt reported on the conference to the AOA Board of Trustees prior to the annual meeting in Miami Beach. Their recommendations to the Board included the employment in the AOA Central Office of a qualified medical economist who would help develop active osteopathic participation in health and medical care of the aging under social security and other financing and in other third party medicine programs.

The recommendations were referred by the Board to the Committee on Health Care for the Aging headed by Dr. Vernon H. Casner of Kirksville, Missouri.

The AMA's hopes to prevent the conference from endorsing a medical care plan tied to Social Security ran into trouble from the start.

In a special "briefing" session for physician delegates held the day before the conference began, Dr. Benedict Duffy of Hudson County, New Jersey, protested the AMA's propaganda package.

"Don't flood me with what I know isn't true," Dr. Duffy said. "I am a practitioner and I will stand with you. But I wish we could all be Americans first and physicians second."

Dr. Elkin Ravetz of Philadelphia echoed the sentiment when he said he wished the AMA were known *for* something rather than simply "against progress."

The AMA position was further weakened during the first afternoon of the conference when two officials of the Eisenhower administration—former Health Secretary Marion B. Folsom and former Labor Under Secretary Arthur Larson—openly endorsed the Social Security program.

A statement on medical care plans was specifically the responsibility of the income maintenance section headed by former Social Security commissioner Charles I. Schottland. When Folsom, a Re-

publican, and a long-time leader in the aged care field, spoke out in this section endorsing the Social Security approach as the "the logical plan, and one which is endorsed by most students of the subject," the delegates were obviously impressed and the AMA position became even more tenuous.

Labor representatives, meanwhile, were effectively lobbying in nearly all the conference's twenty sections, trying to convince the delegates, regardless of what they were supposed to discuss, that the Social Security approach was the best way to finance health care.

Springing to the counterattack, the AMA tried hard to have the health and medical care section endorse a statement which would offset that which was obviously going to come from the income maintenance section.

Dr. Leonard Larson, AMA president-elect, argued that the rules barred his group from making any recommendations in the financing field, but he finally yielded.

By a vote of 165 to 122, Dr. Larson's section adopted a statement that "existing Federal-state matching programs will provide effective, economical, dignified medical care for our elderly who need help. Compulsory health care inevitably results in poor-quality health care. We therefore feel that health care under the Social Security mechanism is unnecessary and undesirable."

Robert W. Kean, former New Jersey Republican congressman who was chairman of the conference, immediately ruled the statement out of order. After meeting with Charles Schottland and Dr. Larson, he agreed to a compromise in which the health and medical care section struck out the attack on the Social Security mechanism but retained the statement that "compulsory health care inevitably results in poor care."

The following day, as expected, the income maintenance section voted 170 to 99 in favor of health care under Social Security.

Several other sections voted to include endorsements of the Social Security approach in their recommendations, but their actions were voted out of order as was a move to have a mass vote by all delegates.

In the weeks following the meeting, organized labor crowed over its victory while the AMA cried "foul."

An editorial headlined "A Lesson in Deception" which appeared in the February 6 issue of *AMA News* noted:

"The vote of one section could not and did not represent the sentiment of all the delegates—or that of the 'grassroots.'"

On the other hand, the *AFL-CIO News* said editorially, "The White House Conference has produced substantial evidence that the American people are ready to support a program of health care for the aged under social security."

The *AMA News* continued:

"As far as the question of financing health care for the aged is concerned, the White House Conference provided nothing new—except, perhaps, the extent to which exponents of Forand-type legislation will go in an effort to further their campaign.

"The conference did, however, accomplish one thing: It probably will discourage any such conferences in the future."

In summarizing the conference, newspapers and magazines across the country echoed this sentiment but, at the same time, also labeled the conference for what it was—an exercise in democratic action which somehow was led astray by political maneuvering.

Despite the controversy over financing health care, the conference did manage to discuss other pressing problems of the aged and to make specific recommendations for their solution. Perhaps the most significant for physicians was one by the medical research section that an Institute of Aging Research be created within the National Institutes of Health.

The institute would cost about $20 million to establish, and it would centralize the widely scattered research projects into physical and mental disorders of the aged as well as coordinate plans to develop a corps of geriatric specialists.

The section also recommended "full Federal support, without matching funds" for construction of laboratories and special animal facilities for research programs in aging, in universities, medical schools, and other appropriate institutions.

Specific areas of research which were to be encouraged included functional studies of senescent cells, especially in relation to molecular, histologic, histochemical, and biochemical technics; investigation of the extent to which the functional activities of fixed postmitotic cells depend upon continued gene action; and investigation of the extent to which somatic mutation in both dividing and fixed postmitotic cells contribute to the debilities of aging.

Other section recommendations included:

Creation of a federal aging coordinating agency and a central national voluntary coordinating body as well as formation of local and state committees.

Adjustment of old age benefits to changes in prices and wages, similar to cost-of-living changes in labor contracts.

Development of voluntary accreditation programs to insure high standards of care for nursing homes and similar institutions.

Improvement of vocational rehabilitation services so that older disabled persons may maintain or regain their ability to work.

Improved health maintenance education and stronger controls over advertising and labeling of products for the aged.

The complete set of recommendations from the conference is being correlated and will be presented to President Kennedy sometime in April.

Whether they will form the basis for legislative action, and whether, in the final analysis, the frantic political activity during the conference will have any effect, remains to be seen.

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James H. McCormick
Third Vice President

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- Bureau of Finance, *George W. Northup*
- Bureau of Insurance, *John W. Mulford*

Council on Federal Health Programs, *Carl E. Morrison*

Council on Development, *William B. Strong*

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- Conference, *Otterbein Dressler*
- Osteopathic Progress Fund, *Earl K. Lyons*
- Mead Johnson Grants, *John W. Mulford*
- Manual of Procedure (Joint House-Board), *Lydia T. Jordan*
- A.O.A. Organizational Structure, *J. Mancil Fish*
- Expansion of Central Office Facilities, *Carl E. Morrison*
- Committee on Clinical Study, *Allan A. Eggleston*

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A.O.A. ACTIVITIES

A Message from the President of the American Osteopathic Association

▶ This is THE JOURNAL'S Specialty Certification Number. As has been done every year for 8 years, the Advisory Board for Osteopathic Specialists and each of the specialty boards present their credentials—their reasons for being, and their mandates and procedures.

The significance of this annual presentation cannot be overemphasized. It reflects constant and continuous striving for the best. It measures the development of a body of controls which, since 1939, has spelled out what the profession demands, and the public may expect, of osteopathic specialty care.

The Advisory Board for Osteopathic Specialists, as the coordinating body of individual specialty boards, is an agency of the Board of Trustees of the American Osteopathic Association. It is made up of sixteen voting members: one from the A.O.A. Board of Trustees; two from the A.O.A. Bureau of Professional Education; one from the Association of Osteopathic Colleges, and one each from the twelve osteopathic specialty boards. Its secretary is the director of the A.O.A. Office of Education.

The primary business of specialty boards is to establish and maintain patterns of postdoctoral education and certification. Each in its own sphere sets up standards and passes upon applications for certification. More than this, the boards serve as mediums of exchange of experience and conviction, where judgment may be mellowed, and effort may become increasingly cooperative. The Advisory Board acts as a liaison body between specialist general practitioner, to the enhancement of the services of both.

The person who holds membership on a specialty board is not to be envied. His is a post of critical responsibility, of continuous routine, often of controversy and censure. Men and women who so act do a great service to their profession and the public. They are instrumental in improving, modernizing and protecting postdoctoral educational processes under osteopathic auspices. They are to be congratulated and honored. It is not easy to act as watchdogs of excellence.

R. J. Harvey DO

201 W. Ellsworth Street, Midland, Michigan

A.O.A. trustees hold midyear meeting in Miami Beach

► Following upon the annual convention's departure from custom, the Association's Board of Trustees held its regular midyear meeting in Miami Beach, Florida. This was not only the Board's first winter meeting away from Chicago, but was also its first midyear meeting as part of an annual convention.

The Board's order of business, however, was little changed. It was concerned with forwarding legislation passed by the House of Delegates at its regular meeting in July, and with taking care of its own administrative business. It viewed the wide front of professional effort, and acted upon the recommendations of the Association's various committees. President Roy J. Harvey, Midland, Michigan, was in the chair.

Changes in personnel and structure • Appointed to serve as trustees until the next regular meeting of the House of Delegates were Dr. W. S. Horn, Palmetto, Florida, and Dr. Richard E. Eby, Pomona, California. They replace Dr. Dominic Raffa, Kansas City, Missouri, and Dr. Russell M. Husted, Long Beach, California.

Board member Wallace M. Pearson, Kirksville, Missouri, was named to succeed Dr. Husted as chairman of the Department of Public Affairs, and as a member of the A.O.A. Executive Committee. Dr. Otterbein Dressler, Detroit, was made acting chairman of the Bureau of Research, to succeed Dr. Robert A. Galbraith, Riverside, California. Dr. W. Clemens Andreen, Wyandotte, Michigan, was approved as chairman of the Committee on Program for the 1962 Convention.

A change in structure came in the Board's action to raise the Ad Hoc Committee on Disaster Medical Care to the status of a Bureau, under the Department of Public Affairs. Dr. Raymond W. Hanna, Kansas City, Missouri, continues as chairman. The Board approved the interim appointments of Drs. J. Wesley Elbert, Petersburg, Indiana, H. Kay Dooley, Pomona, California, and Mr. Paul Stitzel, Warrensville Heights, Ohio, as committee members.

Membership • In the period from January 1960 to January 1961, the Association gained 285 members, as reported by Dr. John W. Hayes, East Liverpool, Ohio, chairman of the Committee on Membership. On the first of the year, membership stood just 24 short of 11,000. During the year only 201 members were dropped for nonpayment of dues, as compared to 568 in 1957 and 710 in 1955. The total number of osteopathic physicians on January 1 was 13,921.

The committee granted life memberships to Dr. C. C. Akers, Lynchburg, Virginia, and Dr. W. C. Gordon, Sioux City, Iowa.

Funds and Grants • Osteopathic Progress Fund receipts of $491,836 were reported by Robert Bennett, Chicago, OPF director. This is an increase of $163,657 over the first 6 months of the fiscal year.

The Committee on Student Loan Fund, as reported by Chairman

Newly appointed A.O.A. Trustees W. S. Horn, Palmetto, Florida, left, and Richard E. Eby, Pomona, California, visit with Dr. Ira C. Rumney, Ann Arbor, Michigan, the Board's senior member in point of continuous service.

Robert N. Evans, La Grange, Illinois, has so far this year granted 82 loans totaling $59,275, an increase of 20 loans and close to $20,000 over this period last year.

The Committee on Mead Johnson Grants, headed by Dr. John W. Mulford, Cincinnati, reports that during the past 6 years, this pharmaceutical company has contributed $36,000 to graduate education for young osteopathic physicians. Twenty-three young men and women have benefited, and nine more will be added to the list in 1961.

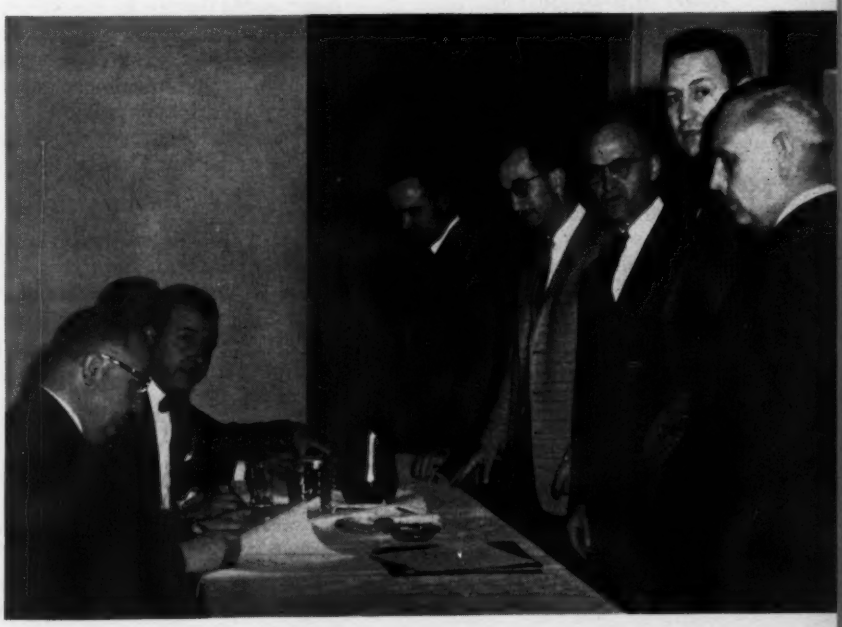
Education • Current enrollment in the six osteopathic colleges totals 1,944, according to the report of Lawrence W. Mills, Chicago, A.O.A. Director of Education. Of this number, 506 are seniors, 457 juniors, 485 sophomores, and 496 freshmen. In spite of the growing competition for medical students, Mr. Mills pointed out, applications to osteopathic colleges have for several years maintained the same level, and entering classes show a definite scholastic improvement.

P. and P.S. • As director of the Division of Public and Professional Service, Robert A. Klobnak reported these recent developments: Release of the motion picture, "American Doctor," shown during the Miami Beach convention; publication of the booklet, "Focus on Research," to be reprinted in full in the A.O.A. publication *D.O.;* and participation in the Ninth Civil Defense Council in Minneapolis, the Dartmouth College Conference on "Great Issues of Conscience in Modern Medicine," the White House Conference on Aging, and the National Health Council clinic on films. In December the Division staged a Forum on Communications, in Central Office in Chicago, to aid A.O.A. delegates in their participation in the National Health Forum being held this month in New York City.

The California situation • Board action in relation to the osteopathic profession in California is reported in the Editorial section of this issue.

The next regular meeting of the Board of Trustees will be held in Chicago, July 6, 7, and 8, in conjunction with the annual meeting of the House of Delegates, which will be held July 9 to 12.

The Auxiliary's convention display of materials used in the 1960 Christmas Seal Campaign lead Dr. Phil R. Russell, Fort Worth, Texas, to drop a contribution into the jar held by Mrs. George W. Northup, Madison, New Jersey. Mrs. Northup headed A.A.O.A. promotion of the year's campaign, the thirtieth in support of student loans and research.



As the special meeting of the House of Delegates, held during convention in Miami Beach, gets under way, the Credentials Committee certifies delegates. Committee members are Drs. A. Hollis Wolf, John A. Cifala, and W. Clemens Andreen.

Health insurance for aged

▶ In his Special Message on Health and Hospital Care on February 9, President Kennedy told Congress he was recommending enactment of a health insurance program financed under the Social Security system under which benefits would be available to all persons aged 65 and over who are eligible for social security or railroad retirement benefits. A draft of the proposal was sent to Congress on February 13 and promptly introduced by Representative Cecil R. King of California, as H.R. 4222, and by Senator Clinton P. Anderson of New Mexico, as S. 909, with sixteen cosponsors.

The 67-page bill adds a new title XVI—Health Insurance Benefits for the Aged—to the Social Security Act and amends the Internal Revenue Code to increase social security taxes ¼ of 1 per cent on both employers and employees and ⅜ of 1 per cent on the self-employed, effective in 1963, and raises the taxable earnings base from $4,800 to $5,000 in 1962.

Highlights of H.R. 4222 and S. 909

Scope and duration of benefits provided • The services for which payment would be made under the proposal would be: (1) inpatient hospital services for up to 90 days. Hospital services would include all those customarily furnished by a hospital for its patients, and would be subject to a deductible amount (paid by the patient) of $10 a day for up to 9 days, with a minimum of $20; (2) skilled nursing home services, after the patient is transferred from a hospital, for up to 180 days; (3) outpatient hospital diagnostic services, as required, subject to a $20 deductible amount for each diagnostic study; (4) home health services for up to 240 visits during a calendar year. These services would include intermittent nursing care, therapy, and part-time homemaker services.

An individual could be eligible for up to 90 days of hospital services and 180 days of skilled nursing home services in each period of illness, but subject to a maximum of 150 "units of service." A unit of service would be equal to: 1 day of inpatient hospital services or 2 days of skilled nursing home services. Thus, if during a period of illness a beneficiary transferred from a hospital to a skilled nursing home after 60 days, payment could be made for the 60 days of hospital care and for up to 180 days of his skilled nursing home care. If the beneficiary transferred after 95 days in the hospital, payment could be made for 90 days of hospital care and up to 120 days of his skilled nursing home care. A "new period of illness" would not begin until 90 days had elapsed in which the patient was neither in a hospital nor a skilled nursing home.

Address communications to the Council on Federal Health Programs 1757 K Street, N.W. Washington, D.C.

Basis of reimbursement • Payments to the providers of service would be made on the basis of the reasonable cost incurred in providing care for beneficiaries. The amount paid under the program would be payment in full for covered services, except, of course, that the provider could charge the patient the amounts of the deductibles and extra charges for a private room or private duty nursing.

Administrative aspects • Responsibility for administration of the program for social security beneficiaries would rest with the Secretary of Health, Education, and Welfare. Considerable reliance would be placed upon the states to assure that local conditions would be taken into account. The Secretary would consult with appropriate state agencies and recognized national accrediting bodies in formulating the conditions of participation for providers of service. In addition, the Secretary would have the authority to utilize state agencies to perform the administrative functions of determining whether a provider meets the conditions for participation and to provide consultative services to providers. Provision would be made for the establishment of an Advisory Council which would advise the Secretary on policy matters in connection with administration.

In order to be eligible to participate in the program, providers of service would have to meet specified conditions to assure the health and safety of the beneficiaries. If it desired, a state could recommend that more strict conditions be applied with respect to providers of service within the state.

Effective dates • Payments would be made with respect to inpatient hospital, outpatient hospital diagnostic, and home health services provided on or after October 1, 1962, and for skilled nursing home services furnished on or after July 1, 1963.

Summary of S. 937

In addition to the President's proposal embodied in H.R. 4222 and S. 909, there was introduced in the Senate on the same day, February 13, 1961, by Senator Jacob K. Javits of New York and eight other Republican senators, S. 937, "A Bill to provide for a program of federal matching grants to the states to enable the states to provide health insurance for individuals aged 65 or over at subscription charges such individuals can pay."

Description • A voluntary participating health benefits plan for persons 65 years old or over providing preventive, diagnostic, and

short-term illness benefits, or long-term catastrophic or chronic illness benefits, or insurance benefits through contributions of state and federal governments.

Persons eligible • All persons 65 years of age and over, who are not recipients of public assistance (and thus eligible for medical benefits under other provisions of the bill) whose income does not exceed $3,000 for an individual or $4,500 per couple. Eleven million persons would be eligible immediately, not including the 2.4 million receiving public assistance, taking in substantially all aged persons in need of assistance with their health care costs.

Benefits • The state plan must contain three options for the subscriber: (a) Preventive, diagnostic, and short-term illness benefits with specified minimum services which may be increased to a maximum cost of $128 per year; (b) Long-term illness benefits with specified minimum services which may be increased to a minimum cost of $128 per year; (c) Private insurance benefits, under which 50 per cent of the cost of a private insurance plan, up to a maximum of $60 per year, is paid for.

Minimum benefits specified per year under the preventive and short-term care plan must include: (a) 21 days of hospital care, or nursing care at a ratio of 3 nursing home days per hospital day; (b) physician services for 12 home or office visits; (c) first $100 of costs for ambulatory diagnostic laboratory and x-ray services; and (d) 24 days of visiting nurse or other home health care services.

Typical maximum benefits under the preventive care plan could include: (a) 45 days of hospital care or equivalent nursing home care; (b) physician services for 12 home or office visits; (c) total costs for ambulatory diagnostic laboratory and x-ray services; and (d) 135 days of home health care services. It could also include any other type of medical services provided for by the state plan.

Minimum benefits specified per year under the long-term catastrophic or chronic illness plan must include 80 per cent of the following costs, after payment of the first $250 of medical expenses: (a) 120 days of hospital care; (b) surgical service provided in a hospital; (c) full nursing home service; (d) full visiting nurse or other home health care services.

An individual state's typical maximum benefits under the long-term illness plan could include 80 per cent of the following, after payment of the deductible amount: (a) 180 days of hospital care; (b) full nursing home care; (c) full home health care services: (d) surgical services anywhere; (e) first $200 of laboratory and x-ray services; (f) first $350 of prescribed drugs; and (g) other physician, major dental, and private duty nurse services. Benetfis could also be improved by reducing the deductible amount.

Enrollment fee • To be determined by the state subject to the approval of the Secreary of Health, Education, and Welfare, with a minimum of 10 per cent of per capita costs—generally $9 to $12.80 per year.

Financing • Cost above the amount realized from enrollment fees is shared between the state and federal governments. The maximum benefit package eligible for such sharing is $128 per capita per year. Federal participation is between 66⅔ and 33⅓ per cent depending upon state per capita income, averaging nationally to 50 per cent. The median cost to the federal government of the plan is estimated at about $450 million a year.

Other provisions •

1. Grants to states for assistance in establishing these programs;
2. Establishment of an Advisory Council on Health Insurance;
3. Permission for enrollment fees to be paid by employers or pension funds, thus permitting collective bargaining or other arrangements during the working life for their payment;
4. Periodic opportunities to change between the different plans;
5. Hearings before a state agency on claims which have been denied.

The President's Schedule

As President of the American Osteopathic Association, Dr. Roy J. Harvey is scheduled to attend these conventions and meetings:

Colorado Osteopathic Association, Colorado Springs	April 13-15
National Osteopathic Child Health Conference, Kansas City, Missouri	April 17-19
Illinois Osteopathic Association, Chicago	April 20-23
Tennessee Association of Osteopathic Physicians and Surgeons, Chattanooga	April 30-May 3
Texas Association of Osteopathic Physicians and Surgeons, San Antonio	May 4-6
Arkansas Osteopathic Association of Physicians and Surgeons, Little Rock	May 6-7
Arizona Society of Osteopathic Physicians and Surgeons, Phoenix	May 12-14
Indiana Association of Osteopathic Physicians and Surgeons, French Lick	May 20-23
West Virginia Society of Osteopathic Medicine, Huntington	May 20-23

Administrative assistants Marie Bierbaum and Mortimer T. Enright of the Central Office Executive Department confer during the meeting of the Board of Trustees in Miami Beach.

28 A.O.A. staff members serve at Convention

► Twenty-eight members of the Central Office Staff, Chicago, attended the Miami Beach Convention, to serve in widely varying capacities. Heading their activities were A.O.A. administrative officers Dr. True B. Eveleth, Executive Director, Walter A. Suberg, Business Manager, and Kenneth L. Ettenson, Treasurer. Members of the staff included:

Executive department: Dorcas Sternberg, Mortimer T. Enright, Marie Bierbaum, Luise Van Hook, Josephine Taylor, Josephine L. Seyl, and Patricia A. Guinand.

Business office: Ruby Hanks, Julia Goldschmidt, Ann Wittner, Charles Bertel, and Michael Roche.

Division of Public and Professional Service: Robert A. Klobnak, director, Otha W. Linton, Robert Bradner, Leonard Heffel, Irene Silberg, and Eileen Dyba.

Editorial department: Katherine Becker and Betty M. Kanameishi, associate editors.

Membership department: Caroline M. Wells, supervisor.

Office of Education: Lawrence W. Mills, director, and Dr. Harry A. Lichty.

Legal department: Milton McKay, general counsel.

Osteopathic Progress Fund: Robert Bennett, director.

"Abstract of Laws" and "Focus on Education" reprinted

Reprints of two A.O.A. publications, "Abstract of Laws" and "Focus on Osteopathic Education," are now off the press. The first, "Abstract of Laws and Regulations Governing the Practice of Osteopathy," is a reprint of the fifteenth edition published by the A.O.A. Department of Information and Statistics on January 1, 1960. It gives the latest available information on laws and regulations of the fifty states, the District of Columbia, Puerto Rico, and the six provinces of Canada. It also lists states offering unlimited licenses, those whose boards accept certificates of the National Board of Examiners for Osteopathic Physicians and Surgeons, that require annual registration, and that have basic science laws.

"Focus on Osteopathic Education" is one of the series of booklets produced by the Division of Public and Professional Service, addressed primarily to foundations, insurance companies, national health associations, and medical science writers.

Dr. Wilber V. Cole, Kansas City, Missouri, chairman of the convention's scientific exhibit, left, talks with Central Office staff members Ann Marie Wittner, Ruby Hanks, and Robert Bradner.

Advisory Board for Osteopathic Specialists and Boards of Certification

Advisory Board for Osteopathic Specialists

THOMAS J. MEYERS, D.O., Chairman

The Advisory Board for Osteopathic Specialists was organized in 1939 to meet the needs of a developing situation concomitant with the growth of specialization in medicine. To standardize the backgrounds of the various specialties and to give them an authoritative position, the American Osteopathic Association entered the picture through its agency, the Advisory Board.

The Advisory Board is not only the authoritative group that establishes and maintains standards of specialization and the pattern of training for the various specialties, but it is also a meeting place for the exchange of experiences, for the mellowing of judgments, and for the cooperative effort of the various specialty boards and the educational and hospital-training groups of the profession. Time has matured the workings of the specialty program within the profession and has given the Advisory Board a respected role in its supervisory functions. The Board finds that a certain amount of informing activity has become necessary, to keep the profession as a whole aware of what is currently offered in the way of research and service. The place of the Advisory Board in the general educational structure of the profession has become increasingly significant.

In the current period of stress within the profession, the specialties program stands out more prominently than almost any other as being identified with the American Osteopathic Association. It is clear that an osteopathic specialist has no authoritative base except within the National body.

The Advisory Board is composed of one representative and one alternate from each approved certifying board, one representative of the Board of Trustees of the American Osteopathic Association, and representatives from such other groups as are interested in the education, examination, and certification of osteopathic specialists. The Advisory Board, represented by its Chairman, is a member of the Bureau of Professional Education.

Member organizations comprising the Advisory Board of Osteopathic Specialists are twelve boards of specialty certification, the Board of Trustees of the American Osteopathic Association, the Bureau of Professional Education, the American Association of Osteopathic Colleges, and the Central Office of the American Osteopathic Association. The voting membership totals 16.

The Chairman, Vice Chairman, and two members of the Bureau of Professional Education are appointed by the President of the American Osteopathic Association; the Secretary is provided by the Central Office and two members of the Executive Committee are elected by the Board itself. All officers with the exception of the Secretary serve 2-year terms.

Membership of the Advisory Board for Osteopathic Specialists, 1961

BOARD OF TRUSTEES OF THE AMERICAN OSTEOPATHIC ASSOCIATION—John W. Hayes

BUREAU OF PROFESSIONAL EDUCATION: Dale Dodson; William L. Silverman

AMERICAN ASSOCIATION OF OSTEOPATHIC COLLEGES—Robert A. Kistner

CENTRAL OFFICE—AMERICAN OSTEOPATHIC ASSOCIATION—Mr. L. W. Mills, Secretary; Harry A. Lichty, Assistant Secretary

AMERICAN OSTEOPATHIC BOARD OF ANESTHESIOLOGY—J. Craig Walsh; *Alternate:* K. George Tomajan

AMERICAN OSTEOPATHIC BOARD OF DERMATOLOGY—Sidney D. Rothman; *Alternate:* Walter L. Willis
AMERICAN OSTEOPATHIC BOARD OF INTERNAL MEDICINE—Stuart F. Harkness; *Alternate:* Neil R. Kitchen
AMERICAN OSTEOPATHIC BOARD OF NEUROLOGY AND PSYCHIATRY—K. Grosvenor Bailey; *Alternate:* Floyd E. Dunn
AMERICAN OSTEOPATHIC BOARD OF OBSTETRICS AND GYNECOLOGY—Jacquelin Bryson; *Alternate:* Dorothy J. Marsh
AMERICAN OSTEOPATHIC BOARD OF OPHTHALMOLOGY AND OTORHINOLARYNGOLOGY—Ralph S. Licklider; *Alternate:* Clifford C. Foster
AMERICAN OSTEOPATHIC BOARD OF PATHOLOGY—O. Edwin Owen; *Alternate:* W. Harriet Davis
AMERICAN OSTEOPATHIC BOARD OF PEDIATRICS—Nelson D. King; *Alternate:* William S. Spaeth
AMERICAN OSTEOPATHIC BOARD OF PHYSICAL MEDICINE AND REHABILITATION—Harvey S. Taylor; *Alternate:* Robert C. Ruenitz
AMERICAN OSTEOPATHIC BOARD OF PROCTOLOGY—Carlton M. Noll; *Alternate:* Lester I. Tavel
AMERICAN OSTEOPATHIC BOARD OF RADIOLOGY—John W. Tedrick; *Alternate:* Theodore C. Hobbs
AMERICAN OSTEOPATHIC BOARD OF SURGERY—Arthur M. Flack, Jr.; *Alternate:* Howard A. Graney

COMMITTEES, 1961

Executive Committee—Thomas J. Meyers, Chairman; Norman W. Arends, Vice Chairman; Mr. L. W. Mills, Secretary; Harry A. Lichty, Assistant Secretary; Neil R. Kitchen
Review Committee (six members)—Appointed annually not later than 30 days before the time of annual meeting
Appeal Committee (five members)—Appointed when deemed necessary by the Chairman of the Advisory Board with the approval of the Executive Committee
Committee on Basic Documents—Carlton N. Noll, Chairman; Robert C. Ruenitz; J. Craig Walsh

Revised rules of organization and procedure

ARTICLE I—NAME

Sec. (a) The name of this body shall be the Advisory Board for Osteopathic Specialists.

Sec. (b) This Advisory Board is constituted and functions under the auspices of the Board of Trustees of the American Osteopathic Association to which it serves as an advisory body and from which it receives authority to engage in those activities necessary to fulfill its purposes. Actions of this Board to have effect must be approved by the Board of Trustees of the American Osteopathic Association.

ARTICLE II—PURPOSES AND DUTIES

The purposes and duties of this Board shall be the following:

Sec. (a) To assist in the establishment of Certifying Boards which shall determine the fitness and ability of each candidate for certification as a specialist in a distinct and recognized specialty.

(1) To be accepted as a certifiable field of specialization such specialty must be accurately definable, must be represented by a reasonable number of individuals who confine themselves or give the preponderance of their time to practice within the defined field; the technics practiced within the field shall be adequate to care for the majority of cases within the field defined; it shall be a field in which knowledge of the entire range of possibilities is a basic qualification and in which only the unusual case calls for special technics not included within the definition and where the practitioner within the field is required to be competent to decide the need for special technics.

(2) The definition which is included for the specialty shall be stated so as to delineate accurately the scope of practice properly embraced by the specialty.

Sec. (b) To advise the specialty Certifying Boards with reference to defining and determining the scope of the several accepted specialties.

Sec. (c) To advise the specialty Certifying Boards with reference to establishing appropriate standards of education and training for the several specialties and coordinating the requirements for certification by the Certifying Boards.

Sec. (d) To advise the Certifying Boards in reference to the development of an appropriate modus operandi for determining fitness of applicants for certification.

Sec. (e) To receive from the Certifying Boards proposals relating to their organization and activities and transmit these with appropriate recommendations to the Board of Trustees of the American Osteopathic Association.

Sec. (f) To provide for the certification of applicants in distinct and recognized specialties in which there is no organized specialty society in the profession and no Certifying Board.

Sec. (g) To review the proposals for certification received from the Certifying Boards and make recommendations concerning each proposal to the Board of Trustees of the American Osteopathic Association for its action.

Sec. (h) To maintain contact with the activities of the Certifying Boards in order to ascertain their conformity to the standards and procedures adopted and to advise them when indicated regarding corrections in their procedures. If necessary, the Advisory Board shall make appropriate recommendations to the Board of Trustees of the American Osteopathic Association when any Certifying Board persists in failing to conduct its affairs in an acceptable manner.

Sec. (i) To cooperate with the Executive Secretary of the American Osteopathic Association in maintaining an accurate listing of certified specialists in good standing.

Sec. (j) To assist in educating the profession at large concerning the significance of specialty certification and its relation to the general practitioner.

Sec. (k) To respond in advisory capacity to any group within the profession in matters pertaining to

the recognition or declaration of specialization.

Sec. (l) To cooperate with the Bureau of Professional Education, and the American Osteopathic Association in creating and standardizing specialty training programs and in establishing the principle of certification in the personnel of the organizations coming under its jurisdiction.

Sec. (m) To keep a record of all meetings, transactions and actions of the Advisory Board and maintain in an appropriate form a cumulative compilation of recommendations of this Board to the Board of Trustees of the American Osteopathic Association.

The original stenographic notes of the proceedings of the Advisory Board shall be filed as the legal record of the Minutes of the Advisory Board. The edited Minutes shall be considered legal after approval by the Advisory Board except in instances of question as to original intent and purpose, when the original record shall become a part of the final document of record.

Sec. (n) To establish and maintain a file of the constitution and bylaws of all approved Certifying Boards together with their amendments, cumulative lists of their memberships, cumulative lists of those certified by each Certifying Board, and record the standing of each diplomate.*

ARTICLE III—MEMBERSHIP

Sec. (a) The membership of the Advisory Board of Osteopathic Specialists shall consist of two representatives from the Bureau of Professional Education and one representative from each approved Certifying Board; and one member from each of the following groups:

(1) Board of Trustees of the American Osteopathic Association;

(2) American Association of Osteopathic Colleges.

Sec. (b) Member organizations shall make their appointments within 60 days following each annual meeting of the American Osteopathic Association and the appointments shall be communicated promptly to the Executive Director of the American Osteopathic Association and to the Secretary of the Advisory Board.

Sec. (c) Each member organization is entitled to one vote, except the Bureau of Professional Education whose two members shall each have a vote.

Sec. (d) An alternate may be accepted as a member, if designated by the appropriate member organization officer and the name is in the hands of the Executive Director of the American Osteopathic Association, and the Secretary of the Advisory Board for Osteopathic Specialists before the time of the annual meeting of the Advisory Board.

Sec. (e) When one individual is named by two different member organizations as a representative, the appointing officer whose appointment was last received shall be informed of the previous appointment of the individual by another member organization so that his appointment may be changed if desired.

Sec. (f) That, there being two representatives on the Advisory Board of Osteopathic Specialists from the Bureau of Professional Education, these two representatives will be appointed by the President of the American Osteopathic Association in consultation with the Chairman of the Bureau of Professional Education. They may be chosen from the members of the committees of the Bureau. If the appointees are not members of the Bureau, they will report through their committee chairmen to the Bureau of Professional Education.

ARTICLE IV—OFFICERS

Sec. (a) The officers of this Board shall be a Chairman and Vice Chairman, appointed by the President of the American Osteopathic Association for terms of 2 years each, their appointments to be made in alternate years. They shall perform the customary duties of these offices.

Sec. (b) In the event a certifying board for any reason ceases to function, the Chairman shall assume temporary chairmanship of that Board with restricted powers to maintain its operating continuity until the next meeting of the Advisory Board. In this capacity, he shall arrange for the evaluation of candidates' credentials and for their examination, but shall not himself evaluate or examine.

The Chairman shall make a midyear and an annual report to the Board of Trustees of the American Osteopathic Association.

Sec. (c) The Secretary of the Board shall be provided by the Executive Director of the American Osteopathic Association from the Central Office staff. He shall keep a record of all meetings, transactions and actions of the Advisory Board and assist the Chairman in such other duties as are appropriate to this office.

Sec. (d) In the event of a vacancy in the office of the Chairman and Vice Chairman, the senior member of the two members at large elected to the Executive Committee shall act as Chairman until the next regular meeting.

ARTICLE V—COMMITTEES

Sec. (a) The Executive Committee shall be composed of the Chairman, Vice Chairman, Secretary, and two members of the Advisory Board.

Each of such members from the Advisory Board shall be elected in alternate years for a term of 2 years.

Elected members of the Executive Committee shall be members ex officio of the Advisory Board through the terms for which they are elected.

This committee shall carry out the policy and activity initiated or decided by the Advisory Board. The Executive Committee shall meet on call of the Chairman.

*Upon recommendation of the Advisory Board for Osteopathic Specialists, the Board of Trustees of the A.O.A. changed the term "certificate holder" to "diplomate," January 1960.

The Executive Committee shall act for the Advisory Board between meetings of the Advisory Board. All actions of the Executive Committee shall be subject to approval of the Board of Trustees of the American Osteopathic Association.

Sec. (b) A Review Committee composed of six members shall be appointed by the Chairman not later than 30 days before the time of the annual meeting, or special meeting, from among members who affirm their intent to be in attendance at the meeting, for a term of 3 years, two of whom shall be appointed each year to serve a term of 3 years. During the first year, two shall be appointed for 1 year, two shall be appointed for 2 years, and two shall be appointed for 3 years. The Chairman of the Advisory Board shall appoint one member to act as Chairman of the Review Committee. This Committee shall review the data supporting proposals for certification submitted by the Certifying Boards and make recommendation to the Advisory Board concerning the proper action on each candidate proposed.

Names of the candidates who fail to meet the requirements of the Review Committee shall not be presented to the Advisory Board.

Sec. (c) A Nominating Committee composed of three members shall be appointed by the Chairman at the time of the annual meeting to name candidates for membership at large on the Executive Committee for the ensuing year and to report to the last session of the meeting, at which time the election of such membership shall take place. Nominations from the floor will be in order.

Sec. (d) An Appeal Committee shall be selected and appointed by the Chairman of the Advisory Board, with the approval of the Executive Committee, whenever it is deemed necessary by the Chairman of the Advisory Board to provide for adjudication of a charge filed with the Advisory Board of unfairness or improper conduct of the affairs of any Certifying Board by an applicant for certification.

The Appeal Committee shall be composed of five members, who shall elect their own chairman, one individual to be appointed from the Bureau of Professional Education, one from the Board of Trustees of the American Osteopathic Association, and three from the membership of the Advisory Board for Osteopathic Specialists, no one of whom shall be a member of the Certifying Board which is the object of complaint.

All appeals shall be filed with the Chairman of the Advisory Board not later than April 1. Copies of the written appeals and submitted material shall be provided to the Committee at least 30 days prior to its next scheduled meeting.

The meeting, or meetings, of the Committee shall be arranged by the Chairman of the Appeal Committee with the complainant and a representative appointed by the Chairman of the Certifying Board involved. A stenotype record of the proceedings shall be made and such notes shall be confidential.

After hearing and considering the presentation of the complaint and the Certifying Board's response giving reasons for the action against which the complaint is directed, and after making any necessary investigation, the Appeal Committee shall make a report to the Advisory Board, indicating what the committee considers to be the proper action to be followed by the parties concerned. If the controversy is not suitably adjudicated and the circumstances justify, the report of the Appeal Committee shall be presented to the Board of Trustees of the American Osteopathic Association for further action.

This Committee shall be dissolved upon conclusion of the duties specified above.

Sec. (e) A Committee on Basic Documents shall be appointed by the Chairman of the Advisory Board at each annual meeting. For the purposes of this Committee, the basic documents shall be defined as the Constitution and Bylaws, Regulations and Requirements of the Specialty Certifying Boards, and the Handbook of the Advisory Board for Osteopathic Specialists and Boards of Certification.

The duties of this Committee shall be:

(1) To maintain a file of all basic documents of the Advisory Board and its member Certifying Boards.

(2) To prepare and submit to the Advisory Board, amendments to the Handbook of the Advisory Board for Osteopathic Specialists and Boards of Certification.

(3) To review the basic documents of the specialty Certifying Boards and recommend proposed changes in these documents as may be necessary to establish conformity with the Handbook of the Advisory Board for Osteopathic Specialists and Boards of Certification, as approved by the Board of Trustees of the American Osteopathic Association.

ARTICLE VI—MEETINGS

Sec. (a) A regular annual meeting shall be held at the time and place of the annual convention of the American Osteopathic Association. The meeting shall be scheduled at such time that recommendations from this Advisory Board may be transmitted to the Board of Trustees of the American Osteopathic Association before the conclusion of its final sessions. The time and place of the sessions of the Advisory Board's meeting shall be communicated to all members not less than 30 days before the date of convening.

Sec. (b) A quorum at any session of any regular meeting shall consist of a majority of the designated membership of the Advisory Board.

Sec. (c) Robert's Rules of Order shall be followed except where they conflict with these rules of procedure.

Sec. (d) The order of business shall be as follows:

(1) Call to order.

(2) Roll call.

(3) Secretary's report including:

a) Presentation of the report to the Board of Trustees of the American Osteopathic Association made at the preceding annual meeting.

b) Presentation of the Chairman's preliminary report to the Board of Trustees of the American Osteopathic Association, and the recommendations for the current session of the Advisory Board.

(4) Appointment of Nominating Committee.

(5) Report and recommendations of Certifying Board.

(6) Reports of Standing Committees.

(7) Reports of Special Committees.

(8) Unfinished business.

(9) Receipt of communications.

(10) Report of Review Committee.

(11) New business and assignments to appropriate committees.

(12) Report of Nominating Committee and Election of Membership to Executive Committee.

(13) Appointment of Committees for ensuing year

(14) Adjournment.

ARTICLE VII—REPORTS TO THE BOARD OF TRUSTEES OF THE AMERICAN OSTEOPATHIC ASSOCIATION

Sec. (a) Immediately following the adjournment of the Advisory Board, the Secretary of the Advisory Board shall prepare a mimeographed listing of all successful applicants for certification recommended at the Advisory Board meeting. The Chairman of the Advisory Board then presents the list to the Board of Trustees for final approval.

Upon receipt of the minutes, the Secretary of the Advisory Board shall prepare, at the direction of the Chairman, a full report of the activities of the Advisory Board at its annual meeting. This report shall then be presented to the Bureau of Professional Education at its annual meeting. Following action by the Bureau, the report shall then be transmitted to the Board of Trustees at its next midyear meeting. Indicated action following acceptance of the report and recommendations shall then be administered in ample time for action by specialty Certifying Boards or others concerned prior to their annual meeting.

Sec. (b) In reporting its recommendations of individuals for certification in the various specialties, the Advisory Board shall furnish the Board of Trustees of the American Osteopathic Association with an additional list of applicants for specialty certification who have completed the required examinations and who have not been recommended by their certifying board for certification, along with the reason for the delay in their being certified, whether due to failure or for other reasons.

When the report is made of "Applicants Not Recommended for Certification," that list shall be immediately destroyed.

ARTICLE VIII—AMENDMENTS

Sec. (a) Amendments to these Rules of Organization and Procedure may be adopted for submission to the Board of Trustees of the American Osteopathic Association for approval by the vote of a majority of the members of the Advisory Board registered with the Secretary as present at the annual meeting, provided the proposed amendment has been submitted to each member present in writing or printed form not less than 12 hours preceding the time of the meeting at which the vote is to be taken.

Sec. (b) A Handbook of the Advisory Board for Osteopathic Specialists and Boards of Certification shall be issued by Central Office within 90 days following adoption of this recommendation by the Board of Trustees. It shall contain the following:

(1) Rules of Organization and Procedure of the Advisory Board for Osteopathic Specialists as amended with the approval of the Advisory Board and the Board of Trustees.

(2) Rules of Procedure for Specialty Certifying Boards as amended with the approval of the Advisory Board and Board of Trustees.

(3) Standard Constitution and Bylaws of Boards of Certification as approved by the Board of Trustees.

(4) Model form for Regulations and Requirements of Boards of Certification.

(5) Model form Outline for Annual Report of Secretaries of Certifying Boards to the Advisory Board.

Sec. (c) The documents listed under Section (b) above shall be edited, rearranged and revised, without changing the intent, to provide better phraseology and continuity. Repetition shall be deleted.

Sec. (d) One hundred and fifty copies of the Handbook shall be issued. They shall be distributed to the Executive Committee of the American Osteopathic Association, officers and members of the Board of Certification and to other individuals who have a right to the Handbook.

Sec. (e) The Handbook shall be revised every 2 years, and the revisions shall include recommendations of the Advisory Board which have been approved by the Board of Trustees since the preceding issue of the Handbook pertaining to the conduct of the Advisory Board, Board of Certification, and applicants for certification.

Sec. (f) All recommendations which amend or in any way alter any of the documents reproduced in the Handbook shall be presented as amendments with proper reference to the document, article, section and paragraph.

Boards of Specialty Certification

STANDARD CONSTITUTION AND BYLAWS

(Approved by the Board of Trustees of the American Osteopathic Association, July, 1948)

CONSTITUTION OF THE AMERICAN OSTEOPATHIC BOARD OF .....

ARTICLE I—NAME

The name of this organization shall be The American Osteopathic Board of .....

ARTICLE II—PURPOSE

Sec. 1. The purposes of this Board shall be:

a. to define the qualifications to be required of osteopathic physicians for certification in the field (or fields) of ..... and of any other specialty field that may be assigned to this Board;

b. to determine the qualifications of osteopathic physicians as specialists for certification in the field (or fields) of ..... and of any other specialty field that may be assigned to it;

c. to conduct examinations in conformity with the Bylaws of this Board;

d. to issue certificates, subject to the recommendation of the Advisory Board for Osteopathic Specialists and to the approval of the Board of Trustees of the American Osteopathic Association, to those physicians who are found qualified;

e. to recommend revocation of certificates for cause;

f. to use every means possible to maintain a high standard of practice in these specialties (this specialty) within the osteopathic profession.

The actions of the American Osteopathic Board of ..... are subject to recommendation of the Advisory Board for Osteopathic Specialists and to the approval of the Board of Trustees of the American Osteopathic Association.

ARTICLE III—DEFINITION

Sec. 1. For the purposes of the operation of this Board the following division(s) of practice (are, is) defined:

a. the practice of ..... shall consist of and include .....

b. the practice of ..... etc., etc.

ARTICLE IV—ORGANIZATION

Sec. 1. Membership

a. The American Osteopathic Board of ..... shall consist of ..... members elected by ..... Each elected member shall be a certified specialist in good standing in ..... (Each specialty group shall be represented in the membership of the Board .....) Insofar as possible there shall be a representative from each geographical time belt of the United States on this Board.

b. Members shall be elected for a term of 3 years (except that at the first election of members to this Board three members shall be elected for 3 years, three shall be elected for 2 years and three for 1 year. Thereafter, three members shall be elected annually for the full term of 3 years.) The terms of members should be so staggered that the new members elected in any year shall not constitute a majority of the Board. In case of death or resignation of any Board member, ... shall appoint a certified specialist from the corresponding field to fill the unexpired portion of the term.

c. Members shall continue to serve until their successors are elected.

Sec. 2. Officers

a. The officers of the Board shall be:

i) Chairman
ii) Vice Chairman
iii) Secretary-Treasurer

b. These officers shall be elected by this Board for a term of 1 year at its annual meeting.

c. Officers shall continue to hold office until their successors are elected.

Sec. 3. Committees

a. There shall be three standing committees of this Board and such other committees as may from time to time be authorized. The Chairman shall appoint all committees unless it is otherwise provided.

b. The standing committees shall be:

i) Credentials Committee
ii) Examination Committee
iii) Advisory Board Representative

ARTICLE V—AMENDMENT

Sec. 1. Subject to the review and recommendation of the Advisory Board for Osteopathic Specialists and the approval of the Board of Trustees of the American Osteopathic Association, this Constitution may be amended by a vote of two-thirds of the total membership of this Board (or three-fifths in a five-member Board) at any annual meeting following notification given at any previous annual meeting of such intention.

BYLAWS OF THE AMERICAN OSTEOPATHIC BOARD OF .....

ARTICLE I—DUTIES OF THE AMERICAN OSTEOPATHIC BOARD OF .....

Sec. 1. This Board shall serve as an advisory body to all applicants for certification in the specialty (specialties) of ..... and any other specialty which may be assigned to its jurisdiction.

Sec. 2. This Board shall determine, in accordance with the provisions of these Bylaws, the appropriate standards of education and the training held necessary for certification in the specialty (specialties) of ..... and of any other specialty which may be assigned to its jurisdiction, subject to the recommendations of the Advisory Board for Osteopathic Specialists and to the approval of the Board of Trustees of the American Osteopathic Association.

Sec. 3. This Board shall establish detailed rules for conducting all examinations in compliance with the provisions of these Bylaws and shall provide for the conduct of examinations at least once a year in accordance with its Regulations and Requirements.

Sec. 4. This Board shall file with the Advisory Board for Osteopathic Specialists, at the time specified by the Advisory Board, its recommendations concerning each applicant for certification together with any pertinent information required by the Advisory Board for Osteopathic Specialists.

Sec. 5. This Board shall provide and issue certificates in all fields assigned to this Board's jurisdiction, as provided in Article V of these Bylaws.

Sec. 6. This Board shall provide permanent files for all records. It shall record and keep permanently on file all applications submitted to it and complete records of examination results and shall maintain a registry of diplomates. All examination papers and case reports of applicants shall be kept on file for a period of 3 years.

Sec. 7. This Board shall levy and collect from applicants the funds necessary to finance the operation of this Board as provided in the Regulations and Requirements.

Sec. 8. This Board shall arrange for all meetings necessary to enable this Board to carry out its functions as provided in Article VI, Sections 1 and 2 of these Bylaws.

Sec. 9. This Board shall provide one member of this Board to function as representative to the Advisory Board for Osteopathic Specialists. In case of inability of the regular representative to attend the sessions of the Advisory Board of Osteopathic Specialists, the Chairman of this Board shall appoint an alternate as provided in the Rules of Organization and Procedure of the Advisory Board for Osteopathic Specialists.

Sec. 10. This Board shall conduct its activities in relation to the officers of the American Osteopathic Association, the Advisory Board for Osteopathic Specialists, other Certifying Boards and applicants for certification as provided in the Rules of Procedure for Specialty Certifying Boards compiled by the Advisory Board for Osteopathic Specialists and approved by the Board of Trustees of the American Osteopathic Association.

Sec. 11. This Board shall make, in conformity to its Constitution and Bylaws, all necessary regulations and requirements to govern its activities which are not provided by the Advisory Board for Osteopathic Specialists and the Board of Trustees of the American Osteopathic Association.

ARTICLE II—COMMITTEES

Sec. 1. Credentials Committee

a. There shall be a Credentials Committee of ..... members appointed by the Chairman of this Board, whose members shall represent different geographical districts as far as possible.

b. It shall be the duty of the Credentials Committee:

i) to receive all completed applications from the Secretary-Treasurer;

ii) to conduct a comprehensive investigation of each applicant in accordance with the rules governing applications;

iii) to prepare a recommendation concerning each applicant and present this to the American Osteopathic Board of ..... at its next (annual) meeting .....

Sec. 2. Examination Committee

a. There shall be an Examination Committee composed of the Chairman of this Board and not less than two additional Board members. The Chairman of this Board shall act as the Chairman of the Examination Committee.

b. It shall be the duty of the Examination Committee to plan and to make preparations for the conduct of examinations in the specialty fields coming under the jurisdiction of this Board in accordance with the rules governing examinations as stated in Article IV, Section 1, paragraph h, of these Bylaws and in the Regulations and Requirements of this Board.

c. The Examination Committee shall report to this Board the findings on the examination of each applicant.

Sec. 3. Advisory Board Representative

a. There shall be a representative to the Advisory Board, who shall be the Chairman or the Secretary-Treasurer of this Board.

b. It shall be the duty of the Advisory Board representative to represent the American Osteopathic Board of ..... in all matters where such representation is required.

c. The Chairman shall appoint annually as an alternate representative a member of this Board, who shall be empowered to act for the regular representative, if he is not in attendance.

ARTICLE III—DUTIES OF OFFICERS

Sec. 1. The duties of the Chairman shall be:

a. to preside at all meetings;

b. to appoint all committees and representatives to the Advisory Board for Osteopathic Specialists;

c. to schedule meetings of this Board at such times and places as necessary to carry on the business of this Board;

d. to supervise all examinations;

e. to act as an ex officio member of all committees;

f. to sign all certificates issued by this Board;

g. to act as Chairman of the Examination Committee;

h. to be the Advisory Board Representative, if so designated.

Sec. 2. The duties of the Vice Chairman shall be:

a. to assume the duties of the Chairman when the latter is absent or otherwise unable to fulfill them;

b. to assist the Chairman in the discharge of his duties.

Sec. 3. The duties of the Secretary-Treasurer shall be:

a. to keep in permanent file records of all proceedings, transactions, and rulings of this Board, and to keep on file all examination papers and case records for a period of 3 years;

b. to have printed and distributed all certificates, application forms, circulars of information, etc., authorized by this Board and necessary for the proper functioning of this Board;

c. to maintain in proper place and form the moneys of this Board and to issue an accounting of them at annual meetings or at such other times as requested by the Chairman of this Board;

d. to keep a permanent file of all applications coming before this Board with a signed record of the action taken on each;

e. to maintain a record of all diplomates in good standing and to supply upon request to governmental agencies, hospitals, physicians, schools, and others entitled to such information, a list of diplomates in good standing;

f. to have prepared in appropriate and complete form for presentation to the Review Committee of the Advisory Board for Osteopathic Specialists in support of recommendations for certification the application, examination record (written, oral and practical), and other pertinent information requested;

g. to serve as a representative of this Board to the Advisory Board for Osteopathic Specialists, if so designated;

h. to sign all certificates issued by this Board, as provided in Article V;

i. to prepare an annual report in keeping with the Rules of Procedure for Specialty Certifying Boards of the work done by this Board, including a list of all applicants and the results of their examinations and a resume of this Board's finances. This report is to be presented at the annual meeting of the Advisory Board for Osteopathic Specialists and copies are to be supplied to the Chairman and Secretary of the Advisory Board and to the Executive Director of the American Osteopathic Association;

j. to cooperate with the Executive Director of the American Osteopathic Association in all matters pertaining to the annual registration of diplomates;

k. to notify the Executive Director of the American Osteopathic Association and the Chairman and Secretary of the Advisory Board for Osteopathic Specialists of members and officers elected to this Board and of appointments to the Advisory Board for Osteopathic Specialists.

ARTICLE IV—REQUIREMENTS FOR CERTIFICATION

Sec. 1. To be eligible to receive a certificate of specialization from the American Osteopathic Board of ....., the applicant must meet all of the following minimum requirements, excepting as provided in Section 3 (and Section 4) of this Article:

a. He must be a graduate of an approved osteopathic college.

b. He must be licensed to practice in the state or territory where he conducts his specialty practice.

c. He must have been a member in good standing of the American Osteopathic Association for a continuous period of at least 3 years and of his state or divisional society for a continuous period of 2 years immediately prior to application for examination by this Board.

d. He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board.

e. He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

f. A period of not less than 3 years of special training related to the specialty shall be required, after the required 1 year of internship, or its equivalent, but not necessarily running 3 consecutive years. This Board may modify the requirement of 3 years' special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement, for physicians who graduated prior to 1946, but in no case may such applicant be accepted for examination without at least 1 year of special training as defined. This training shall include:

i. Advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty;

ii. Active experience in the diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty.

The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by studying under the preceptorship of a qualified specialist in this field, supplemented by prescribed study conforming to a plan approved by this Board.

The minimum 3-year period of special training may be made up of varying combinations of the several types mentioned above, as determined by this Board. It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training. This Board will recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

g. He must practice as a specialist in his field for a period of at least 2 years subsequent to the minimum 3 years of special training. Specialty practice with each specialty field under this Board shall

be defined in the Regulations and Requirements of this Board.

h. Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, his familiarity with the current advances in the specialty, the possession of sound judgment and of a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of the specialty. Oral, written and clinical examinations shall be conducted and required in the case of each applicant. This Board may conduct the oral and written examinations at the end of the required 3 years of special training, but shall not conduct the practical or clinical examination until the required 2 years of specialty practice have been completed. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examinations may be delegated to committees of not fewer than two individuals maturely qualified in the specialty. A full description of the method of conducting the examination shall be formulated in this Board's Regulations and Requirements, and provision for re-examination shall be made.

i. Applicants desiring examination for certification shall be required to file an application which shall set forth the applicant's qualifications for examination as stated in paragraphs a, b, c, d, e, f, and g, above. The procedure for filing applications shall be set forth in the Regulations and Requirements and no application for action at any annual meeting of this Board shall be accepted after April 1 of that year.

Sec. 2. In the case of an applicant who was engaged in the practice of his specialty by 1939, or prior thereto, and who graduated prior to 1936, and who meets the general requirements stated in Section 1 a, b, c, d, and e above, and has maintained appropriate activity in American Osteopathic Association organization work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature or otherwise has indicated his consistent interest and competence in his specialty, the requirements of this Article IV, Section 1, paragraphs f and h, may be waived and he may be recommended for certification after passing an appropriate oral and/or clinical examination.

The final date for accepting applications under this classification shall be May 1, 1961. [Note: This amendment will in effect eliminate applicants for certification under the "Grandfather Clause" after the specified date.]

Sec. 3. Subject to the recommendations of the Advisory Board of Osteopathic Specialists and to the approval of the Board of Trustees of the American Osteopathic Association, the American Osteopathic Board of ..... may require such further training in each of the specialty fields coming under its jurisdiction as in its judgment such field may require, provided that the additional requirements for each specialty field are clearly set forth in the Regulations and Requirements of this Board. Additions to requirements shall not go into effect until 1 year subsequent to the announcement of such change.

Sec. 4. If circumstances necessitate it a section may be written and inserted at this point to provide for the fair handling of applicants already acting on the basis of commitments made by this Board prior to December 15, 1946.

ARTICLE V—CERTIFICATES

Sec. 1. Issuance

Certificates of specialization which have been approved by the Board of Trustees of the American Osteopathic Association shall be issued by the American Osteopathic Board of ..... to applicants who have conformed to all requirements for certification described in Article IV of these Bylaws and who have received the recommendation of the Advisory Board for Osteopathic Specialists and the approval of the Board of Trustees of the American Osteopathic Association. Each such certificate shall be signed by the Chairman and the Secretary-Treasurer of this Board. No certificate is valid until it has been signed by the Executive Director of the American Osteopathic Association.

Sec. 2. No. certificate shall be issued to an individual who is certified by another board, until the former certificate has been surrendered to the Executive Director of the American Osteopathic Association.

Sec. 3. Revocation

This Board shall have the power to recommend to the Advisory Board for Osteopathic Specialists and the Board of Trustees of the American Osteopathic Association, the revocation of the certificate of any holder whose certificate was obtained by fraud or misrepresentation, who unduly advertises, exploits his certificate, fails to maintain membership in the American Osteopathic Association, and in the divisional society of the American Osteopathic Association of the state or province in which he practices where such exists, violates the Code of Ethics of the American Osteopathic Association or otherwise disqualifies himself.

Sec. 4. To remain in good standing the diplomate shall pay an annual registration fee to the Executive Director of the American Osteopathic Association, as provided in the Rules of Procedure for Specialty Certifying Boards as compiled by the Advisory Board for Osteopathic Specialists.

ARTICLE VI—MEETINGS

Sec. 1. The American Osteopathic Board of ..... shall hold a regular annual meeting to transact business and to conduct examinations at the time and place of the annual meeting of the American Osteopathic Association (or at the annual meeting of its respective specialty college).

Sec. 2. Special meetings of this Board which are deemed necessary for the transaction of business may be called with the approval of the majority of the members of this Board provided all members are formally notified of the called meeting and its purpose, not less than 30 days before the date set for the meeting.

Sec. 3. For the transaction of business at any meeting of this Board ..... members shall constitute a quorum.

ARTICLE VII—AMENDMENT

Sec. 1. Subject to the review and recommendation of the Advisory Board for Osteopathic Specialists and to the approval of the Board of Trustees of the American Osteopathic Association, these Bylaws may be amended by a two-thirds vote of the total membership of this Board (or three-fifths in a five-member Board) at any meeting, provided each member has been notified at least 30 days prior to the date of the meeting, of its being called and of the intention to amend.

American Osteopathic Board of Anesthesiology

K. George Tomajan, *Chairman*, Boston, Massachusetts; J. Calvin Geddes, *Vice Chairman*, Mount Clemens, Michigan; Mahlon L. Ponitz, Detroit, Michigan; Clare E. Pike, Long Beach, California; J. Maurice Howlett, Birmingham, Michigan; Crawford M. Esterline, Kirksville, Missouri; J. Craig Walsh, *Secretary-Treasurer*, Philadelphia, Pennsylvania; Mrs. E. F. Martin, *Corresponding Secretary*, Coral Gables, Florida

DEFINITION OF SPECIALTY PRACTICE

For the purpose of the operation of this Board the following division of practice is defined:

a. The practice of anesthesiology shall consist of and include that branch of medical science, art, and practice which deals with the use of anesthetic agents, the evaluation of the patient's condition with reference to the use of anesthetic agents and the care of complications incident to their use.

REQUIREMENTS FOR CERTIFICATION

The American Osteopathic Board of Anesthesiology shall accept for examination for certification only osteopathic physicians who are specializing in anesthesiology. The applicant must be engaged in the practice of anesthesiology and he must present evidence to the Board that he is so practicing.

It shall be the policy of the American Osteopathic Board of Anesthesiology to require that, with his application, each applicant submit a list of his anesthetic procedures for the 12-month period immediately prior to making application, giving the date, name of hospital and case number, patient's initials, name of the surgeon, operative procedure, and anesthetics administered. This list shall be certified by the administrator of the hospital in which the anesthetics were administered.

This list shall be accompanied by a supplementary list in which the anesthetic procedures for the year are broken down into segregated totals indicating the number of each type of anesthetic administered by the applicant during the 12-month period. The totals of both lists must agree.

It shall be the policy of the Board to require the Credentials Committee to carefully scrutinize the scope of anesthetic practice represented in each applicant's report. Unless an applicant presents evidence that the scope of his anesthetic practice is sufficiently varied and of a major character (as shown by the records submitted), the Credentials Committee shall not recommend him for examination without an investigation by one or more certified specialists not located in the applicant's immediate vicinity, who have been appointed by the Board for the purpose of determining the applicant's qualifications. The applicant shall be responsible for the expenses incurred in the conduct of such an investigation.

If the investigation is conducted in the same manner and under the same requirements as for a clinical examination and the applicant is recommended for examination, the Board may, at its discretion, accept the investigation as the equivalent of a clinical examination. The expenses paid by the applicant for the investigation shall be considered as payment of expenses for his clinical examination.

Each applicant for examination for certification in anesthesiology by the American Osteopathic Board of Anesthesiology must present evidence that he has met the minimum requirements and shall:

1. Have been graduated from an approved osteopathic college at least 6 years prior to April first of the year in which his application is submitted for consideration by the Board.

2. Be licensed to practice in the state or territory where he conducts his specialty practice.

3. Have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to making application for examination by the Board.

4. Be, and if certified continue to be, favorably known and recognized by his clientele as an osteopathic physician specializing in the practice of anesthesiology and shall publicize his osteopathic affiliations in an ethical manner.

5. Declare that he is familiar with the Code of Ethics of the American Osteopathic Association and the interpretations thereof and certify that he will abide by the provisions of the Code of Ethics as set forth, interpreted, and/or amended from time to time.

6. Have completed an internship of at least 1 year in a hospital acceptable to the Board. The intern year of 9 months, as prescribed by the Selective Service Board during World War II, shall be acceptable. For physicians who graduated in 1942 or prior thereto, the Board may accept other qualifications in lieu of internship where the applicant's anesthetic experience and ability are beyond question.

7. Have completed a minimum of 3 years of formal training in anesthesiology after the required 1 year of internship, or its equivalent, but not necessarily running 3 consecutive years.

During the minimum 3-year period of formal training, there shall be evidence of sufficient clinical work in anesthesiology with a minimum of 300 anesthetics of a diversified nature administered annually.

This formal training program must be acceptable to the Board and shall include:

a) A period of at least 1 year of formal training in anesthesiology in a hospital acceptable to the Board and made up of either an approved residency or an approved full time preceptorship training program.

b) A period of at least 2 years' special training in anesthesiology subsequent to the required 1 year of internship and the required 1 year of formal training. This special training may be made up, either in whole or in part, of an approved residency or an approved preceptorship training program. Preceptorship training programs shall have met the requirements of and been approved by the Evaluating Committee for the Register of Training Programs of the American Osteopathic College of Anesthesiologists.

After the completion of the required 1 year of internship (or its equivalent), the required 1 year of formal training, and 1 year of the required 2 years of special training in anesthesiology, the Board may, at its discretion, accept 2 years of recognized specialty practice in anesthesiology as the equivalent of the third year of special training. In each year of specialty practice, the applicant must have administered at least 250 anesthetics of a diversified nature.

For applicants who graduated in 1947 or prior thereto, in lieu of item b), the Board may, at its discretion, accept 2 years of recognized specialty practice in anesthesiology, subsequent to the required 1 year of internship (or its equivalent), and the required 1 year of formal training, as the equivalent of 1 year of special training or 4 years of recognized specialty practice in anesthesiology as the equivalent of 2 years of special training, but in no case may such applicant be accepted for examination without at least 1 year of formal training as defined. In each year of specialty practice, the applicant must have administered at least 250 anesthetics of a diversified nature.

It shall be the Board's duty to assist applicants in determining a suitable program of anesthetic training, but it is not the Board's function to supply the training. The Board will recognize as proper institutions for securing this training, those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, together with such others as the Board may determine to possess facilities and personnel adequate to provide proper training.

8. In a training program, other than a residency approved by the Board of Trustees of the American Osteopathic Association, which was begun after January 1, 1951, the applicant shall have received satisfactory graduate training in the basic sciences, including anatomy, physiology, biochemistry, pathology, toxicology, and pharmacology.

A minimum of 100 clock hours shall be required in the basic science training program, subdivided as follows:

a) A minimum of 10 clock hours each in anatomy, physiology, biochemistry, pathology, toxicology, and pharmacology.

b) The remainder of the minimum required hours may be taken in any of the subjects mentioned or in other basic sciences related to the specialty of anesthesiology.

The applicant must submit acceptable documentary evidence, which may be further investigated at the discretion of the Board, of having completed this graduate training in the basic sciences, in colleges, laboratories, clinics, hospitals, or other institutions satisfactory to the Board.

9. Have practiced as a specialist in anesthesiology for a period of at least 2 years subsequent to the completion of the required minimum of 3 years of formal training, or its equivalent, prior to being examined.

10. Provide evidence that he has administered a minimum of 1250 anesthetics of a diversified nature.

11. Present detailed case reports, acceptable to the Board, of twenty-five major anesthetic procedures in which he was the responsible anesthetist and handled by him as an anesthetic problem within the past 3 years. These reports shall include the preoperative evaluation of the patient, preoperative sedation, anesthetic agents utilized, anesthetic record, postoperative follow-up, and final disposition of the case.

12. Submit complete case records and a report of pertinent factors where fatalities resulted within 24 hours in patients anesthetized by the applicant during the 12-month period immediately prior to making application.

13. Not printed.*

14. Provided letters of recommendation from two certified anesthesiologists or certified surgeons who are personally acquainted with the applicant, who can vouch for his anesthetic training, anesthetic experience, personal character, and who have personally observed the anesthetic skill of the applicant. The sponsors shall send their letters of recommendation direct to the Secretary-Treasurer or Corresponding Secretary of the Board.

15. Be available for a personal interview upon receiving notice from the Secretary-Treasurer or

Corresponding Secretary that such an interview is required.

16. Demonstrate his eligibility for examination in any other manner required by the Board.

17. Signify his intention to qualify for change of certification, if certified by another Board.

18. Submit his application, required documentary evidence and data, case reports, application fee, and letters of recommendation to the Secretary-Treasurer or Corresponding Secretary on or before April first.

Signed applications and all evidence submitted by an applicant to the Board, even though the applicant may withdraw as an applicant for certification, shall remain the property of the Board.

19. Not printed.*

American Osteopathic Board of Dermatology

Walter L. Willis, *Chairman*, Conshohocken, Pennsylvania; A. P. Ulbrich, *Vice Chairman*, Detroit, Michigan; Harry B. Elmets, Des Moines, Iowa; Anthony E. Scardino, Kansas City, Missouri; Sidney D. Rothman, *Secretary-Treasurer*, Los Angeles, California

DEFINITION OF SPECIALTY PRACTICE

For the purpose of the operation of this Board the following division of practice is defined:

a. The practice of dermatology consists of the diagnosis and treatment of diseases peculiar to the integument and its appendages in all its phases.

REQUIREMENTS FOR CERTIFICATION

Section 1. To be eligible to receive a certificate of specialization from the American Osteopathic Board of Dermatology, the applicant must meet all of the following minimum requirements, excepting as provided in Section 2 of this Article:

(a) He must be a graduate of an approved osteopathic college.

(b) He must be licensed to practice in the state or territory where he conducts his specialty practice.

(c) He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to application for examination by this Board.

(d) He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board.

(e) He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

(f) A period of not less than 3 years of special training related to the specialty shall be required, after the required 1 year of internship, or its equivalent, but not necessarily running 3 consecutive years. This Board may modify the requirement of 3 years' special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement, for physicians who graduated prior to 1946, but in no case may such applicant be accepted for examination without at least 1 year of special training as defined. This training shall include:

(i) Advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

(ii) Active experience in the diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty.

The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by studying under the preceptorship of, a qualified specialist in this field, supplemented by prescribed study conforming to a plan approved by this Board.

The minimum 3-year period of special training may be made up of varying combinations of the several types mentioned above, as determined by this Board. It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training. This Board will recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

(g) He must practice as a specialist in this field for a period of at least 2 years subsequent to the minimum 3 years of special training. Specialty practice within each specialty field under this Board shall be defined in the Regulations and Requirements of this Board.

(h) Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, his familiarity with the current advances in the specialty, the possession of sound judgment and of a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of the specialty. Oral, written, and clinical examinations shall be conducted and required in the case of each applicant. The Board may conduct the oral and written examina-

*Items 13 and 19 have to do with examination fees.

tions at the end of the required 3 years of special training, but shall not conduct the practical or clinical examination until the required 2 years of specialty practice have been completed. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examination may be delegated to committees of not fewer than two individuals maturely qualified in the specialty. A full description of the method of conducting the examination shall be formulated in this Board's Regulations and Requirements, and provision for re-examination shall be made.

(i) Applicants desiring examination for certification shall be required to file an application which shall set forth the applicant's qualifications for examination as stated in paragraphs (a), (b), (c), (d), (e), (f), and (g) above. The procedure for filing applications shall be set forth in the Regulations and Requirements and no application for action at any annual meeting of the Board shall be accepted after April 1 of that year.

Section 2. In the case of any applicant who was engaged in the practice of his specialty by 1939 or prior thereto, and who graduated prior to 1936 and who meets the general requirements stated in Section 1, (a), (b), (c), (d), and (e) above and has maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature or otherwise has indicated his consistent interest and competence in his specialty, the requirements of this Article IV, Section 1, paragraphs (f) and (h) may be waived, and he may be recommended for certification after passing an appropriate oral and/or clinical examination. The final date for accepting applications under this classification shall be May 1, 1961.

Section 3. Subject to the recommendations of the Advisory Board for Osteopathic Specialists and to the approval of the Board of Trustees of the American Osteopathic Association, the American Osteopathic Board of Dermatology may require such further training in each of the specialty fields coming under its jurisdiction as in its judgment such field may require, provided that the additional requirements for each specialty field are clearly set forth in the Regulations and Requirements of this Board. Additions to requirements shall not go into effect until 1 year subsequent to the announcement of such change.

American Osteopathic Board of Internal Medicine

Neil R. Kitchen, *Chairmen*, Detroit, Michigan; John L. Crowther, *Vice Chairman*, Bangor, Maine; Maxwell R. Brothers, Los Angeles, California; G. A. Whetstine, Wilton Junction, Iowa; Charles M. Worrell, Harrisburg, Pennsylvania; Basil Harris, Los Angeles, California; Robert K. Shiefer, San Diego, California; William F. Daiber, Philadelphia, Pennsylvania; Stuart F. Harkness, *Secretary*, Des Moines, Iowa; Glennard E. Lahrson, *Executive Secretary-Treasurer*, Oakland, California

DEFINITION OF SPECIALTY PRACTICE

The practice of internal medicine is devoted primarily to the application of subjective, objective, and laboratory procedures in studying and evaluating the affections, diseases, and functional disorders of the circulatory, respiratory, digestive, endocrine, metabolic, musculoskeletal, hematopoietic, and eliminative systems of the human body to:

a. the correlation of data thus secured with clinical observations to reach diagnostic conclusions;

b. the management of cases within this field by the utilization of all nonsurgical measures;

c. assist in planning the therapeutic utilization of the technics of other specialty branches of medical and surgical practice in the care of patients.

The practice of internal medicine does not include the treatment of the organs of special sense or the organs of the reproductive system, except as to their endocrine relations, and excludes the use of instrumental procedures ordinarily performed by surgeons or surgical specialists.

REQUIREMENTS FOR CERTIFICATION

A. *Educational Qualifications*—To be eligible to receive a certificate of specialization from the American Osteopathic Board of Internal Medicine the applicant must meet all of the minimum requirements as set forth in the Bylaws of the American Osteopathic Board of Internal Medicine, Article IV, Sections 1, 2, and 3.

The 3-year period of training related to the specialty as required in the Bylaws, Article IV, Section 1 (f), is further defined:

1. A period of not less than 3 years of special training related to this specialty shall be required, after the required 1 year of internship or its equivalent, but not necessarily running 3 consecutive years. This Board may modify the requirement of 3 years' special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement for physicians who graduated prior to 1946, but in no case may such applicant be accepted for examination without at least 1 year of special training as defined.

A year of special training shall be interpreted to mean 12 months; a training hour is interpreted to mean a platform hour. This training shall include:

1. Advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

2. Active experience in the diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty.

3. To obtain a mature and comprehensive understanding of the Basic Sciences this Board recommends a minimum of 160 hours of basic science instruction on the graduate level, divided as follows:

Anatomy	30 hours
Physiology	37 hours
Pathology	37 hours
Biochemistry	15 hours
Bacteriology	20 hours
Pharmacology	21 hours

4. Didactic and clinical instruction to assure adequate training in this specialty is recommended in the various fields of internal medicine totaling 320 hours. This instruction must include cardiology, electrocardiography, peripheral vascular diseases, medical diseases, diseases of the kidney, gastroenterology, metabolic diseases, endocrinology, hematology, clinical pathology, respiratory diseases, diseases of the biliary system, musculoskeletal system, x-ray interpretation, ophthalmology, and osteopathic principles and therapeutics, including materia medica as these relate to internal medicine.

5. The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, which may include approved full-time residencies, fellowships or preceptorships. The 3-year, full-time training is defined to mean a minimum of 36 months of approximately 6,000 hours, and it is understood that during this 36-calendar-month period, time off may be allowed not to exceed 1 month per year. A training clinical hour will be 60 minutes, and a didactic hour will be 50 minutes.

Second-year internships. A second-year approved internship, if devoted entirely to internal medicine, will be the equivalent of 1-year full-time training. In the event of a second-year rotating internship, that amount of time devoted to the medical service will be credited toward the training program.

One year, on a full-time basis, as a graduate student or instructor in bacteriology, biochemistry, pathology, pharmacology, or physiology will satisfy the requirement of 1 year of full-time training in internal medicine.

6. After April 1, 1961, only full-time special training programs as defined above will be required.

7. It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training. This Board will recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training, An affidavit shall be furnished upon the request of this Board.

B. *Membership Requirements*—Membership qualifications are those as stated in the Bylaws of the American Osteopathic Board of Internal Medicine, Article IV, Section 1 (c).

C. *Graduation Requirements*—The graduation requirements with exceptions are those stated in the Bylaws of the American Osteopathic Board of Internal Medicine, Article IV, Section 2.

D. *Years of Specialty Practice Required*—The applicant must have practiced as a specialist in the field of internal medicine for a period of at least 2 years subsequent to the minimum of 3 years of special training, as defined by this Board, before he is eligible for clinical examination.

E. *Percentage of Practice in Internal Medicine*—The applicant is expected to have practiced according to the "Definition of the Practice of Internal Medicine" as printed in the Regulations and Requirements of the American Osteopathic Board of Internal Medicine, Part II, 1. An affidavit shall be furnished on request of the Board.

F. *Case Records*—Specially prepared case records for presentation to this Board are not required; however, during the investigation by the Credentials Committee the applicant's office and/or hospital records shall be made available on request of the Committee. Such original records are not to be removed from the office or hospital.

G. *Copy of Published Articles*—Authenticated copies of published articles to be furnished on request of the Credentials Committee. No thesis is required.

H. *Privilege of Re-Examination*—No applicant will be re-examined within a period of 1 year following an initial failure. Reapplication will be necessary to retake the examination. If the applicant fails the second examination, a 2-year period of further special study and practice satisfactory to the American Osteopathic Board of Internal Medicine is required. A reapplication will be necessary to retake the examination after the second failure.

American Osteopathic Board of Neurology and Psychiatry

K. Grosvenor Bailey, *Chairman*, Los Angeles, California; Cecil Harris, *Vice Chairman*, Philadelphia, Pennsylvania; Thomas J. Meyers, Los Angeles, California; Harold E. Higley, Des Moines, Iowa; Floyd E. Dunn, *Secretary-Treasurer*, Kansas City, Missouri

DEFINITION OF SPECIALTY PRACTICE

For the purpose of the operation of this Board, the following divisions of practice are defined:

a. The specialty of neurology shall consist of that division of the practice of osteopathic medicine embracing disorders of the organic nervous system. It shall include all diagnostic procedures and examination technics giving an understanding of the problems involved. Included will be conditions affecting the peripheral nerves, as well as the brain and central nervous system, the autonomic nervous system, and endocrine syndromes, and specific conditions

such as epilepsy, migraine, tics, etc., are included. It does not include neurosurgery.

b. The specialty of psychiatry includes that division of the practice of osteopathic medicine involving functional and organic disturbances of the mind, emotions, and nervous system. It includes personality problems, addictions, behavior difficulties, insanities, marital problems, and sexual and social anomalies. It covers counseling and psychotherapy in all its aspects, as well as diagnostic methods leading to an understanding of the dynamics of the mind. It includes legal and child psychiatry and the field of psychosomatics. It includes electroshock, hydrotherapy, electronarcosis, and other physical modalities applied to the treatment of the mentally ill. It does not include neurosurgery.

c. The specialty of neurology and psychiatry includes all of the divisions of osteopathic medicine as combined with the definitions of the specialty of neurology and the specialty of psychiatry, as stated in a and b above.

Note: For the definition of neurosurgery and for the requirements, see American Osteopathic Board of Surgery.

REQUIREMENTS FOR CERTIFICATION

Sec. 1. To be eligible to receive a certificate of specialization from the American Osteopathic Board of Neurology and Psychiatry the applicant must meet all of the following minimum requirements, excepting as provided in Article IV, Section 3 and Section 4 of the Bylaws:

(a) He must have graduated from an approved osteopathic college.

(b) He must be licensed to practice in the state or territory where he conducts his specialty practice.

(c) He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to application for examination by this Board.

(d) He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board.

(e) He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

(f) A period of not less than 3 years of special training related to the specialty shall be required, after the required 1 year of internship, or its equivalent, but not necessarily running 3 consecutive years. This Board may modify the requirement of 3 years' special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement, for physicians who graduated prior to 1946, but in no case may such applicant be accepted for examination without at least 1 year of special training as defined. For certification in neurology and psychiatry, the training period shall be not less than 5 years. This training shall include:

(i) Advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

(ii) Active experience in the diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty.

The 3-year period of special training as required in Section 1 (f), above, is further defined:

1. For certification in Neurology the following shall be included in an acceptable training program, residency, or preceptorship:

The amount of time of training shall total 3 calendar years or 6,000 clock hours and shall include:

Basic Science	100 clock hours
Psychiatry and Psychology	500 clock hours
Neurological Surgery	
Observation	500 clock hours
Didactic Courses	500 clock hours

A maximum of 1,000 hours may be granted for case reports, 2 hours being allowed for each. A maximum of 500 such reports may be presented. Such reports may be considered if they are submitted in an approved form and signed by the preceptor. Each report must include sufficient information to adequately describe the problem, support of diagnosis, data for differential diagnostic study, an estimate of the prognosis, and a suggested plan of treatment. Clinical training shall include: Electroencephalography, electromyography, reactions of degeneration, neuroophthalmoscopy, spinal taps, cisternal puncture, encephalography, ventriculography, stellate ganglion blocks, angiography, myelography, and autopsy studies. The amount of clinical training shall be 3,400 clock hours. Furthermore, the clinical material utilized must include a sampling of: Degenerative diseases, traumatic conditions, convulsive disorders, infective and toxic problems, neoplasms of the nervous system, deficiency states, cerebro-vascular problems, and geriatric and pediatric neurology.

Training in Neurology preferably should but need not necessarily precede training in Neurosurgery.

2. For certification in Psychiatry the following shall be included in an acceptable training program, residency, or preceptorship:

The amount of time of training shall total 3 calendar years or 6,000 clock hours and shall include:

Psychological Subjects including Testing	500 clock hours
Neurology and Neurological Subjects	500 clock hours
Basic Science	100 clock hours

A maximum of 1,000 hours may be granted for case reports, 2 hours being allowed for each. A maximum of 500 such reports may be presented. Such reports may be considered if they are submitted in an approved form and signed by the preceptor. Psycho-

analysis to which the applicant has submitted himself for treatment or for training will be credited for a maximum amount of 200 clock hours. The training program for certification in Psychiatry shall be primarily of a clinical nature and must be conducted as actual contact with patients under supervision. The full range of psychiatric conditions shall include: Functional psychotics, neuroses of all kinds, sexual aberrations, organic mental conditions, geriatric psychiatry, pediatric psychiatry, marital problems, neurologic psychiatry, psychosomatics, mental deficiency, epilepsy, narcolepsy, alcoholism, psychopathic personalities, syphilis of the nervous system, and legal psychiatry. In addition, the applicant shall acquire familiarity with the theory of Psychiatry and the technics of: Electro-shock treatment, physiotherapy in psychiatry, hydrotherapy in psychiatry, pharmacology in psychiatry, dietetics in psychiatry, occupational therapy, psychotherapy (at least an operational ability), hypnosis and suggestion, child guidance, marital counseling, elementary psychological testing, and psychiatric examination procedure. Only work done in clinically oriented disciplines will be credited. The policy of this Board is to scrutinize critically all preceptor training programs in psychiatry because of its limitations and its questionable value. Unapproved preceptor training programs will not be recognized by this Board. The minimum amount of clinical training shall be 3,400 clock hours.

3. For certification in Neurology and Psychiatry an acceptable training program shall consist of a minimum of 5 years' full-time training or a total of 10,000 clock hours. This training shall consist of 2 years devoted exclusively to the study of Neurology and 2 years devoted exclusively to the study of Psychiatry and 1 year of study which shall include material from both fields and the Basic Sciences.

A holder of a certificate in Neurology or a holder of a certificate in Psychiatry shall be required to complete a minimum of 2 years' additional training to qualify for a certificate in Neurology and Psychiatry. The required 2 years' additional training program must be approved by the American Osteopathic Board of Neurology and Psychiatry.

The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by serving an acceptable assistantship to or studying under the preceptorship of a qualified specialist in this field, supplemented by prescribed study conforming to a plan approved by this Board.

The minimum 3-year period of special training may be made up of varying combinations of the several types mentioned above, as determined by this Board. It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training. This Board will recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

(g) He must practice as a specialist in his field for a period of at least 2 years subsequent to the minimum 3 years of special training. At least 80 per cent of the applicant's practice must be in the specialty field.

(h) Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, his familiarity with the current advances in the specialty and the possession of sound judgment and of a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of the specialty. Oral, written, and clinical examinations shall be conducted and required in the case of each applicant. This Board may conduct the oral and written examinations at the end of the required 3 years of special training, but shall not conduct the practical or clinical examination until the required 2 years of specialty practice have been completed. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examinations may be delegated to committees of not fewer than two individuals maturely qualified in the specialty. A full description of the method of conducting the examination shall be formulated in this Board's Regulations and Requirements, and provision for re-examination shall be made.

Sec. 2. In the case of any applicant who was engaged in the practice of his specialty by 1939, or prior thereto, and who graduated prior to 1936, and who meets the general requirements stated in Section 1, (a), (b), (c), (d), and (e) above and has maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature, or otherwise has indicated his consistent interest and competence in his specialty, the requirements of Article IV, Section 1, paragraphs (f) and (h) may be waived, and he may be recommended for certification after passing an appropriate oral and/or clinical examination. The final date for accepting applications under this classification shall be May 1, 1961.

Sec. 3. Subject to the recommendations of the Advisory Board for Osteopathic Specialists and to the approval of the Board of Trustees of the American Osteopathic Association, the American Osteopathic Board of Neurology and Psychiatry may require such further training in each of the specialty fields coming under its jurisdiction as in its judgment such field may require, provided that the additional requirements for each specialty field are clearly set forth in the Regulations and Requirements of this Board. Additions to requirements shall not go into effect until 1 year subsequent to the announcement of such change.

American Osteopathic Board of Obstetrics and Gynecology

Dorothy J. Marsh, *Chairman*, Glendale, California; Frank E. Gruber, *Vice Chairman*, Philadelphia, Pennsylvania; Carl Waterbury, Des Moines, Iowa; Arthur B. Funnell, Denver, Colorado; Charles J. Mount, III, Burbank, California; A. J. Still, Flint, Michigan; James G. Matthews, Jr., Berkley, Michigan; Kenneth A. Scott, Providence, Rhode Island; Jacquelin Bryson, *Secretary-Treasurer*, Denver, Colorado

DEFINITION OF SPECIALTY PRACTICE

a. Obstetrics: The practice of obstetrics shall be defined as the diagnosis and management of all states presented in cases of pregnancy from the time of conception through the postpartum period by use of any or all means excepting those involving laparotomy or vaginal cesarean section.

b. Gynecology: The practice of gynecology shall be defined as the diagnosis and treatment of diseases peculiar to the female, and because of the close relationship does not exclude affections of the mammary gland and urinary tract in the female, but does exclude all major surgical procedures.

(1) The surgical procedures included under Gynecology are:

(a) Cervical cautery, conization, and biopsy

(b) Endometrial biopsy

(c) Diagnostic dilatation and curettage

(e) Hysterosalpingographies and tubal insufflations

(e) Incision of superficial abscesses

(f) Biopsy and excision of superficial tumors of the vulva

(g) Female circumcision

(h) Breast biopsies

c. Obstetrical Gynecological Surgery: The practice of obstetrical-gynecological surgery shall consist of and include that branch of medical science, art, and practice which is concerned with major operative procedures:

(1) Within the abdomen and pelvis upon the female generative system or structures related thereto;

(2) Major plastic procedures upon the vaginal tract by manual and instrumental means;

(3) And mammary gland.

REQUIREMENTS FOR CERTIFICATION

To be eligible to receive a certificate of specialization from the American Osteopathic Board of Obstetrics and Gynecology the applicant must meet all of the following minimum requirements:

a. He must be a graduate of an approved osteopathic college.

b. He must be licensed to practice in the state or territory where he conducts his specialty practice.

c. He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years prior to application for examination by this Board.

d. He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board.

e. He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

f. A period of not less than 3 years of special training related to the specialty shall be required, after the required 1 year of internship, or its equivalent, but not necessarily immediately following the internship nor running 3 consecutive years, except that in the case of applicants who graduated prior to 1946, this Board may modify the requirement of 3 years of special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement, but in no case may such an applicant graduated prior to 1946 be accepted for examination without at least 1 year of special training as defined. The training shall include:

(i) Advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

A minimum of 100 clock hours shall be required in the basic science training programs, subdivided as follows:

(a) A minimum of 10 clock hours each in the following subjects: Anatomy, physiology, biochemistry, pathology, and pharmacology.

(b) The remainder of the minimum required hours may be taken in any of the subjects mentioned or in other basic sciences related to the specialty.

(ii) Active experience in diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty.

The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by studying under the preceptorship of a qualified specialist in this field, supplemented by prescribed study conforming to a plan approved by this Board.

The minimum 3-year period of special training may be made up of varying combinations of the several types mentioned above, as determined by this Board.

It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training.

This Board will recognize as proper institutions for securing this training those institutions which are approved for special training in Obstetrics and Gynecology and Obstetrical-Gynecological Surgery by the approving agencies of the American Osteopathic Association, together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

This Board will also recognize as proper institutions for securing this training those institutions which are approved for special training in general or gynecological surgery by the approving agencies of the American Osteopathic Association, provided that the total 3-year training period includes the required training in Obstetrics and Gynecology and Obstetrical-Gynecological Surgery, together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

g. He must practice as a specialist in his field for a period of at least 2 years subsequent to the minimum 3 years of special training as defined by this Board prior to being examined.

h. Thesis:

1. The applicant shall submit a thesis which shall be a report of an original investigation in the specialty field by the applicant or a review of the literature to which the applicant shall add personal experiences referable to the subject matter. This Board may accept a previously published article on a subject in the specialty field covered by this Board. Grading of the article will be based on English composition and neatness as well as upon the subject matter.

2. Unacceptable Case Records and Thesis. This Board reserves the right to refuse for credit any case record or records or any thesis if, in its judgment, they do not conform to the standards previously mentioned.

i. Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, his familiarity with the current advances in the specialty, and the possession of sound judgment and a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of his specialty. Oral, written, and clinical examinations shall be conducted and required in the case of each applicant. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examinations may be delegated to committees of not fewer than two individuals maturely qualified in the specialty.

j. Modification of requirements:

In the case of any applicant who was engaged in the practice of his specialty by 1939, or prior thereto, and who graduated prior to 1936, and who meets the general requirements stated in Article IV, Section 1 (a), (b), (c), (d), and (e) of the Bylaws of this Board, and has maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature, or otherwise has indicated his consistent interest and competence in his specialty field, the requirements of Article IV, Section 1, paragraphs (f) and (h) of the Bylaws of this Board may be waived and he may be recommended for certification after passing an appropriate oral and/or clinical examination. The final date for accepting applications under this classification shall be May 1, 1961.

REQUIREMENTS FOR CERTIFICATION IN OBSTETRICS AND GYNECOLOGY

1. Percentage of practice in the field covered by this specialty shall be not less than 60 per cent. The applicant must supply a notarized affidavit of the foregoing.

2. The applicant shall furnish an affidavit of having been first assistant to a qualified specialist in the management of not less than 50 pathological pelvic deliveries as encountered during his assistantship, and 200 cases of a gynecological nature.

3. The applicant must show notarized documented evidence of handling, on his own responsibility, not less than 25 pathological pelvic deliveries and such other nonpathological deliveries as were encountered in the practice of the specialty.

4. The applicant must show notarized documented evidence of handling, as a responsible physician, 100 gynecological cases in which he shall have (a) made a complete examination, including laboratory studies; (b) determined a diagnosis; (c) recommended a gynecological or obstetrical-gynecological surgical treatment; (d) observed or participated in a surgical correction of a pathology found, or performed the gynecological or obstetrical-gynecological surgical treatment; and (e) followed the patient through her convalescence to recovery. A reasonable proportion of obstetrical-gynecological surgical and gynecological cases shall be included.

5. The applicant shall send to the Secretary-Treasurer of this Board authentic copies of 5 pathological obstetrical case records, and 5 complicated gynecological case records. The applicant must file an affidavit certifying that the records are exact copies of authentic records in his files, and that he personally cared for the cases presented. All records must be presented in printed form. The obstetrical case records must include a history, physical examination, routine and special laboratory examinations, antepartum, labor, delivery, and postpartum progress records of sufficient quality to clearly reflect the detailed management of the case to the time of dismissal. The gynecological case records shall include history, physical examination, routine and special laboratory examinations, diagnosis, detailed treatment notes, progress notes, and case summary.

REQUIREMENTS FOR CERTIFICATION
IN OBSTETRICAL-GYNECOLOGICAL SURGERY

1. Percentage of practice by the applicant in the Obstetrical-Gynecological Surgical phases shall not be less than 75 per cent. The applicant must supply a notarized affidavit of the foregoing.

2. The applicant shall furnish an affidavit of having been first assistant to a qualified specialist in the management of not less than 50 pathological pelvic deliveries and such other nonpathological deliveries as were encountered during his assistantship.

3. The applicant must show notarized documental evidence of handling on his own responsibility not less than 25 pathological pelvic deliveries and such other nonpathological deliveries as were encountered in the practice of the specialty.

4. He shall have assisted in the performance of not less than 400 major surgical operations, 200 of which must be of a major obstetrical-gynecological nature. Not more than 25 per cent of any one surgical procedure shall be permitted for accreditation towards the required number of operative assistantships.

5. He shall have performed a minimum of 200 major surgical operations in which he was the responsible surgeon, 100 of which must be of a major obstetrical-gynecological nature. Not more than 25 per cent of any one surgical procedure shall be permitted for accreditation towards the required number of operative procedures performed on his own responsibility.

6. The applicant shall send to the Secretary-Treasurer of this Board authentic copies of 25 case records of major obstetrical-gynecological surgical procedures. The applicant must file an affidavit certifying that the records are exact copies of authentic records in his files and that he personally cared for the cases presented. All records must be presented in printed form. The case records must include a history, physical examination, all preoperative diagnostic procedures, operating technique, surgical findings, progress notes, pathologic reports, and case summary up to the date of discharge from his care.

7. These records become the property of this Board and shall be placed on file with the Secretary-Treasurer of this Board for a minimum of 3 years.

8. He shall demonstrate his fitness to take the examination in any other manner required by this Board.

American Osteopathic Board of Ophthalmology and Otorhinolaryngology

Ralph S. Licklider, *Chairman*, Columbus, Ohio; C. L. Attebery, *Vice Chairman*, Kirksville, Missouri; J. Ernest Leuzinger, Philadelphia, Pennsylvania; Ward G. DeWitt, Long Beach, California; Richard J. Murphy, Detroit, Michigan; Clifford C. Foster, *Secretary-Treasurer and Executive Secretary*, Lakewood, Ohio

DEFINITION OF SPECIALTY PRACTICE

Sec. 1. For the purpose of the operation of this Board, the following divisions of practice are defined:

(a) The practice of ophthalmology shall consist of the diagnosis and treatment of the disorders and diseases of the eye and its adnexa, including refraction.

(b) The practice of otorhinolaryngology shall include the diagnosis and treatment of disorders and diseases of the ear, nose, and throat. It may include such other specialties as have a definite relationship to otorhinolaryngology.

(c) The practice of orofacial plastic surgery shall include the diagnosis, medical and surgical treatment and repair of development, congenital and acquired deformities of the mouth and face, to include the entire area of the head and neck.

REQUIREMENTS FOR CERTIFICATION

The American Osteopathic Board of Ophthalmology and Otorhinolaryngology will accept for examination for certification only osteopathic physicians who are specializing in one of the specialties coming under the jurisdiction of this Board, although the proportion of specialization in practice which is acceptable by this Board may vary according to the size of the community, and the conditions under which the applicant practices. The applicant must be engaged in the practice of ophthalmology and/or otorhinolaryngology, orofacial plastic surgery, or one of the specialties coming under the jurisdiction of this Board, and he must present evidence satisfactory to the Board that he is so practicing. It shall be the policy of this Board to require the Credentials Committee to carefully scrutinize the scope of specialty practice represented in each applicant's report, unless an applicant presents evidence that the scope of his specialty practice is sufficiently varied and of a major character.

Each applicant for examination for certification in ophthalmology and/or otorhinolaryngology, orofacial plastic surgery, or in any of the specialty

fields coming under the jurisdiction of the American Osteopathic Board of Ophthalmology and Otorhinolaryngology must present evidence that he has met the following minimum requirements:

1. He must be a graduate of an approved osteopathic college for at least 7 years prior to consideration of his application by this Board.

2. He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to application for examination by this Board; and, if successful in passing his examination, he shall remain a member in good standing of the American Osteopathic Association and in his state or divisional society.

3. He must be licensed to practice in the state or territory where he conducts his specialty practice.

4. He must be and, if certified, continue to be favorably known and recognized in his community and by his clientele as an osteopathic physician who is specializing in the practice of ophthalmology and/or otorhinolaryngology, orofacial plastic surgery, or a specialty coming under the jurisdiction of this Board, and must publicize his affiliations only in an ethical manner.

5. He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to the American Osteopathic Board of Ophthalmology and Otorhinolaryngology. If the applicant graduated in 1942 or prior thereto, he must furnish evidence of training of equal value satisfactory to the American Osteopathic Board of Ophthalmology and Otorhinolaryngology, in lieu of a recognized internship. The intern year of 9 months, as prescribed by the Selective Service Board during World War II, shall be acceptable as fulfilling this requirement.

6. He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

7. He must provide notarized documentary evidence of a minimum of 3 years of special training and practice of ophthalmology and/or otorhinolaryngology, or of orofacial plastic surgery, after the required 1 year of internship, or its equivalent, but not necessarily immediately following the internship, nor running 3 consecutive years. In the case of applicants who *graduated prior to 1946, this Board may modify the requirements of 3 years' special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total not to exceed 2 years of the requirement, but in no case may such applicant be accepted for examination without at least 1 year of special training from one or more of the categories listed in the following paragraph.*

8. Applicants graduating after 1946 must meet the training requirements under one of the following categories.

a. The training may consist of a 3-year full-time residency. The residency to be served in a hospital recognized by this Board and the Bureau of Hospitals of the American Osteopathic Association, followed by 2 years of a successful specialty practice.

b. The training may consist of 3 years as a full-time trainee under a certified specialist approved by this Board, as a preceptor, in both hospital and office practice, followed by 2 years of successful specialty practice.

c. In no case will more than 1 year of credit toward certification be allowed for foreign study.

9. He must provide notarized documentary evidence that he has performed 100 major surgical operations, in which he was the responsible surgeon.

10. He must present evidence that he has had advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

11. He must present detailed case reports acceptable to the American Osteopathic Board of Ophthalmology and Otorhinolaryngology of twenty-five major procedures in which he was the responsible surgeon and handled by him within the past 5 years. These records shall include history, physical examination, routine laboratory work, special laboratory work, preoperative diagnosis, detailed findings, detailed operative procedure, postoperative diagnosis, the progress notes, gross and histological description, and diagnosis of excised tissue and a case summary.

Two letters of endorsement are required, also a notarized statement of specialty practice by the hospital administrator, plus the following documents in photostatic copies; these must be included with either the case reports or at the time the applicant forwards his application for examination:

Photostats of:

1. College diploma
2. Certificate of internship
3. Residency/trainee certificate or notarized evidence
4. Certificates of basic sciences or notarized evidence

12. An applicant who graduated in 1936, or prior thereto, and who was engaged in the practice of his specialty by 1939 or prior thereto, and who during the 10 years immediately preceding his application for certification, has been recognized by the profession in his community as a specialist in the field of ophthalmology and/or otorhinolaryngology or orofacial plastic surgery, and who meets the general requirements as to association membership, licensure, ethical standing, etc., and who has maintained appropriate activity in the American Osteopathic Association organizational work, specialty group activity, hospital staff work, the pursuit of periodic postgraduate study, contributions to the professional literature, etc., or otherwise indicated a consistent interest and competence in his specialty field; if, in the opinion

of the Credentials Committee, the applicant has been so regarded, the American Osteopathic Board of Ophthalmology and Otorhinolaryngology may waive the written portion of the examination, and recommend the applicant to the Advisory Board for Osteopathic Specialists for certification by the American Osteopathic Association, after the applicant has successfully passed an appropriate oral and/or clinical examination. Applicants under the above classification (#12) are required to submit 25 case reports as stated in paragraph #11 of this document. The final date for accepting applications under this classification will be May 1, 1961.

All applicants except those otherwise provided for in the above paragraph must successfully pass all examinations set forth in these regulations.

As a primary prerequisite for certification in a specialty under the jurisdiction of this Board, the applicant must show evidence of a well-developed understanding of the osteopathic principles and a demonstrated ability to apply these principles.

Note: Undocumented and informal education will be discontinued as a source of certification after July, 1961.

A thesis of 2,000 words will be a further requirement for Certification beginning in 1960, the subject of the applicant's choice or assigned by the Examining Board.

American Osteopathic Board of Pathology

Norman W. Arends, *Chairman*, Huntington Woods, Michigan; W. Harriet Davis, *Vice Chairman*, Burbank, California; Boyd B. Button, Portland, Maine; George E. Miller, Dallas, Texas; George E. Himes, Flint, Michigan; O. Edwin Owen, *Secretary-Treasurer*, Philadelphia, Pennsylvania

DEFINITION OF SPECIALTY PRACTICE

Sec. 1. For the purpose of the operation of this Board the following divisions of practice are defined:

(a) The practice of clinical pathology shall consist of and include all phases of general clinical laboratory work, hematology, bacteriology, mycology, parasitology, serology, toxicology, and applied biochemistry.

(b) The practice of anatomic pathology shall consist of and include all aspects of histopathology, surgical pathology, autopsy surgery, and their teaching.

(c) The practice of pathology shall consist of and include surgical pathology, autopsy surgery, histopathology and clinical pathology.

REQUIREMENTS FOR CERTIFICATION

Each applicant for examination for certification in clinical pathology or pathology, or any specialty coming under the jurisdiction of the American Osteopathic Board of Pathology, must present evidence that he has met the following minimum requirements.

a. Educational qualifications

1) An applicant must be a graduate of an osteopathic college approved by the American Osteopathic Association.

2) Internship

a) One year of internship, preferably a rotating internship, in a hospital approved for intern training by the American Osteopathic Association, or under exceptional circumstances other equivalent institutional training for a period of 1 year satisfactory to this Board.

b) An internship of 9 months shall constitute a recognized full internship if served during World War II as prescribed by the Selective Service Board and when such internships were recognized by the American Osteopathic Association as full internships.

c) If graduated in 1942 or prior thereto, the applicant must have had experience and/or training equivalent to that of an acceptable internship, as determined by this Board.

3) Special training

a) Pathology

A period of not less than 3 years of special training is required, after the required 1 year of internship or its equivalent as defined above (a, 2), but not necessarily immediately following the internship nor running 3 consecutive years.

b) Clinical pathology

A period of not less than 3 years of special training is required, after the required 1 year of internship or its equivalent as defined above (a, 2), but not necessarily immediately following the internship nor running 3 consecutive years.

c) Institutions approved for special training

(1) This Board shall accept special training in pathology or clinical pathology in institutions which meet the Board's requirements and are approved for the specific special training by the approving agencies of the American Osteopathic Association.

(2) This Board requires that the laboratory be under the personal direction of a specialist in pathology (or for clinical pathology, a specialist in clinical pathology) recognized by this Board as capable of proper and thorough teaching of the trainee. He need not be certified but certification in the specialty is preferable.

(3) The laboratory, to be satisfactory, must have an annual minimal volume as follows:

2,000 determinations in hematology;

1,000 determinations in blood chemistry;

1,500 determinations in bacteriology, mycology, parasitology, and serology;

2,000 determinations in urinanalyses, basal metabolism tests, electrocardiographs, gastric analyses, etc., and general miscellaneous laboratory work.

In addition, for pathology, the following minimal volume is required:

1,000 surgical-case tissues;

Postmortem examination of 35 per cent of the deaths in the hospital. A postmortem examination constitutes at least a thorough examination of the trunk in selected cases, additional explorations of the head, extremities, spinal cord, etc.

(4) The laboratory must have an adequate library in the specialty and in related sciences and fields of practice available to the trainee.

(5) The approval of the laboratory is on an annual basis.

(6) If a laboratory loses its status of approval, a trainee in that laboratory shall be given credit for the time spent in special training only during its period of approval.

d) Programs of special training

(1) The special training program must meet the minimum requirements established by the American Osteopathic Board of Pathology.

(2) The special training program must be approved by the Committee on Hospitals of the American Osteopathic Association.

(3) The program must meet the requirements to thoroughly train the individual in clinical pathology and/or pathology in all of the branches as defined in 1, a), b), above.

(4) This Board requires the following minimum requirements for approval of a program:

(a) Pathology. This special training shall include:

1. One year's clinical pathology training subdivided as follows:

i) 3 months' hematology service;

ii) 3 months' blood chemistry service;

iii) 3 months' bacteriology, mycology, parasitology, and serology service;

iv) 3 months' urinanalyses and miscellaneous tests and general laboratory work service.

2. Two years' tissue pathology and autopsy surgery.

(b) Clinical pathology. This special training shall include:

1. One year's service embracing the four divisions as stated above in (6), (a), 1;

2. Two years in the laboratory.

(c) A year is defined as 50 weeks of a minimum of 40 hours per week.

(d) Attendance at periodic clinicopathologic seminars and/or submission of original theses, the number and character to be determined by the trainer.

e) Status of the trainee

(1) A resident training program comes under the jurisdiction of the Bureau of Hospitals of the American Osteopathic Association. It is defined as a full-time training period appropriate to the specialty and of not less than 1 year's duration spent in an approved osteopathic hospital.

(2) The trainee must register with this Board within 30 days from the time he begins the special training in his specialty. Forms for registration are available from the Secretary-Treasurer of this Board.

f) Modification of requirements

The requirements of Article IV, Section 1, f) and h) of the Bylaws may be waived and the applicant recommended for certification after passing an appropriate oral and/or clinical examination, if the applicant was engaged in the practice of his specialty by 1939, or prior thereto, and who graduated prior to 1936, and who meets the general requirements as follows:

(1) He must be a graduate of an approved osteopathic college.

(2) He must be licensed to practice in the state or territory where he conducts his specialty practice.

(3) He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to application for examination.

(4) He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board.

(5) He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

(6) He must have maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature or otherwise have indicated his consistent interest and competence in his specialty.

The final date for accepting applications under this classification shall be May 1, 1961.

g) Modification of requirements by previous commitments by this Board.

In the case of applicants to whom this Board has made definite commitments that a particular program which commenced prior to December 15, 1946, would meet the requirements for admission to examination for certification, the Board may waive such requirements of Article IV, Section 1, paragraphs d), f), and g) of the Bylaws as would prevent the admission of such applicants to examination. The requirements of the Bylaws in force at the time the commitments were made shall apply.

h) Modification of requirements for those who have engaged in specialty practice of pathology or clinical pathology.

If the applicant graduated prior to 1946, this Board may modify the specific requirement of special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for total credit of not to exceed 2 years of the requirement. In no case may such applicant be accepted for examination without at least 1 year of special training as defined.

b. Years of specialty practice. In addition to com-

pleting the required special training, the applicant shall have engaged in specialty practice in his field for not less than 2 years before admission to the examination. Specialty practice is defined as a minimum of 90 per cent of the time occupied in professional practice in the specialty, which may include active specialty practice, teaching of pathology, or administration of a department of pathology or research. An affidavit in regard to the above may be required by the Credentials Committee of this Board in evaluating the applicant's application.

c. Membership requirements. The applicant must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to application for examination by this Board.

d. Licensure requirement. He must be licensed to practice in the state or territory where he conducts his specialty practice.

e. Code of Ethics requirement. He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

f. Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, and his familiarity with the current advances in the specialty, and the possession of sound judgment and of a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of the specialty. Oral, written, and clinical examinations shall be conducted and required in the case of each applicant. This Board may conduct the oral and written examinations at the end of the required 3 years of special training, but shall not conduct the practical or clinical examination until the required 2 years of specialty practice have been completed. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examinations may be delegated to committees of not fewer than two individuals maturely qualified in the specialty. A full description of the method of conducting the examination shall be formulated in this Board's Regulations and Requirements, and provision for re-examination shall be made.

American Osteopathic Board of Pediatrics

William S. Spaeth, *Chairman*, Drexel Hill, Pennsylvania; *Vice Chairman*, Thomas F. Santucci, Philadelphia, Pennsylvania; Robert Magrill, Los Angeles, California; Patrick D. Philben, Dallas, Texas; Nelson D. King, *Secretary-Treasurer*, Kirksville, Missouri

DEFINITION OF SPECIALTY PRACTICE

The practice of pediatrics shall consist of and include the utilization of all of those procedures necessary to the study and the management of the care of infants and children, as well as the prevention, diagnosis, and treatment of the diseases of infants and children from birth up to the average age of sexual maturity.

REQUIREMENTS FOR CERTIFICATION

Each applicant for certification under the jurisdiction of this Board shall present evidence that he has met the following minimum requirements:

1. He shall have been graduated from an approved osteopathic college at least 6 years prior to consideration of his application by the American Osteopathic Board of Pediatrics.

2. He must be licensed to practice in the state or territory where he conducts his specialty practice.

3. He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to making application for examination by this Board.

4. He shall be, and if certified continue to be, favorably known and recognized in his community and by his clientele as an osteopathic physician who is specializing in the practice of pediatrics and shall publicize his osteopathic affiliation in an ethical manner.

5. He must be able to show evidence of conformance to the standards set in the Code of Ethics of the American Osteopathic Association.

6. He shall have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or other equivalent institutional training satisfactory to this Board. If the applicant was graduated in 1942 or prior thereto, he must have had training of value equivalent to that of an acceptable internship as determined by this Board.

7. He shall provide notarized documentary evidence of at least 3 years of special training related to the specialty after the required 1 year of internship or its equivalent, but not necessarily immediately following the internship nor running 3 consecutive years. In the case of applicants graduated prior to 1946, the Board may modify the requirements of 3 years of special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit not to exceed 2 years of the requirement. In no case may such applicant graduated prior to 1946 be accepted for examination without at least 1 year of special training as defined. This training shall include:

(a) Advanced studies in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, bacteriology, immunology, parasitology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

(b) Active experience in such amount and diversity in the practice of this specialty that it will assure adequate training in the specialty. The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by studying under the preceptorship of a qualified specialist in this field, supplemented by prescribed study conforming to a plan approved by this Board. The minimum 3-year period of special training may be made up of varying combinations of the several types mentioned above as determined by this Board. It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training. This Board will recognize as proper institutions for securing the special training those institutions which are approved by the approving agencies of the American Osteopathic Association together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

8. Subsequent to completing the required special training, the applicant shall have engaged in specialty practice for not less than 2 years before admission to examination. To be considered as engaging in a specialty practice, the applicant shall devote 60 per cent or more of his time to the practice of pediatrics.

9. Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in this specialty, his familiarity with the current advances in the specialty field, and the possession of sound judgment and of a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of the specialty. Oral, written, and clinical examinations shall be conducted and required in the case of each applicant.

10. In the case of any applicant who was engaged in the practice of his specialty by 1939 or prior thereto and who graduated prior to 1936, and who meets the general requirements as stated in Article IV, Section 1, (a), (b), (c), (d), and (e) of the Bylaws, and has maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature, or otherwise has indicated his consistent interest and competence in his specialty, the requirements of Article IV, Section 1, (f) and (h) of the Bylaws may be waived, and he may be recommended for certification after passing an appropriate oral and/or clinical examination. The final date for accepting applications under this classification shall be May 1, 1961.

11. Each applicant for certification coming within the jurisdiction of this Board shall prepare and submit for publication at least three articles on pediatrics during the 3 years of special training and one article in each of the 2 years of specialty practice and shall forward copies of these articles to the Secretary-Treasurer of the American Osteopathic Board of Pediatrics.

American Osteopathic Board of Physical Medicine and Rehabilitation

Harvey S. Taylor, *Chairman*, Los Angeles, California; Wallace M. Pearson, *Vice Chairman*, Kirksville, Missouri; Robert C. Ruenitz, *Secretary-Treasurer*, Los Angeles, California

DEFINITION OF SPECIALTY PRACTICE

The practice of physical medicine and rehabilitation shall consist of and include the use of all medical measures, especially those in the physical field, which will hasten the recovery and restoration of the ill or handicapped to the fullest physical, mental, social, vocational, and economic usefulness of which he or she is capable.

REQUIREMENTS FOR CERTIFICATION

To be eligible to receive a certificate of specialization from this Board, the applicant must meet all of the following minimum requirements, excepting as provided in Article IV, Section 2 of the Bylaws of this Board:

a. He must be a graduate of an approved osteopathic college.

b. He must be licensed to practice in the state or territory where he conducts his specialty practice.

c. He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years prior to application for examination by this Board.

d. He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board.

e. He must practice as a specialist in his field for a period of at least 2 years subsequent to the minimum 3 years of special training.

f. Percentage of practice in the field covered by this specialty shall not be less than 60 per cent. An affidavit of proof of practice may be required by this Board from the applicant.

g. Number of case records

1. The applicant must present evidence of handling on his own responsibility not less than 200 cases applicable to this specialty. This evidence must include: history, structural examinations, general physical examination, record of special muscle and nerve testings where applicable, treatment pre-

scribed, and progress notes of the case, including termination of treatment or at the latest date patient was observed.

2. Documentary evidence of the above may be requested by this Board.

3. These records become the property of this Board and shall be placed on file with the Secretary-Treasurer for a minimum of 3 years.

h. Thesis

1. The applicant shall submit reprints or copies of representative articles which have been published or have been prepared for publication. The thesis, a monograph, shall be an original investigation in the specialty field as conducted by the applicant or a review of the literature to which the applicant shall add personal experiences referable to the subject matter.

2. This Board shall submit to the applicant three titles as suggestions for the monograph. If these are not acceptable to the applicant, the applicant may submit a title of his choice to the Board for approval.

3. The title of the thesis must be approved by this Board and the title shall be recorded in the office of the Secretary-Treasurer.

4. The form of the thesis shall follow a stylebook of the applicant's choosing. The author and title of the stylebook shall be included in the bibliography.

5. Sufficient copies shall be submitted to the Secretary-Treasurer of this Board to permit distribution of the thesis to the members of the Examination Committee.

i. Training

A period of not less than 3 years of special training related to the specialty shall be required, after the required 1 year of internship or its equivalent, but need not immediately follow the internship, nor run 3 years consecutively. In the case of applicants who graduated prior to 1946, this Board may modify the requirements of 3 years' special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement, but in no case may such an applicant graduated prior to 1946 be accepted for examination without at least 1 year of special training.

This training shall include:

1. Advanced study in the sciences: Anatomy, physics, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as may be required by this Board.

2. Active experience in the diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty.

3. The clinical aspects of physical medicine:

a. Thermotherapy. Clinical applications of heat and cold, both local and general.

b. Hydrotherapy. Methods of employing hydrotherapeutic devices and procedures.

c. Electrotherapy. Clinical, diagnostic, and therapeutic uses of the constant current, interrupted current, sinusoidal current, and high frequency current.

d. Radiation therapy. Diagnostic and therapeutic uses of ultra-violet and infra-red radiation. (Therapeutic applications of roentgen rays and atomic radiation are not included in the field of physical medicine and rehabilitation.)

e. Kinesitherapy. Clinical uses in diagnosis and treatment by exercise.

f. Occupational therapy. Indications for and clinical applications of the various types.

g. Rehabilitation. The diagnostic and therapeutic use of convalescent reconditioning and rehabilitation of the seriously disabled person.

The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by studying under the preceptorship of a qualified specialist in this field, supplemented by prescribed study conforming to a plan approved by this Board.

The minimum 3-year period of special training may be made up of varying combinations of several types mentioned above, as determined by this Board.

It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training.

This Board will recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, and such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

j. Modification of Requirements. In the case of any applicant who was engaged in the practice of his specialty by 1939 or prior thereto, and who graduated prior to 1936, and who meets the general requirements stated in Article IV, Section 1, (a), (b), (c), (d), and (e) of the Bylaws of this Board, and has maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature or otherwise has indicated his consistent interest and competence in his specialty field, the requirements of Article IV, Section 1, paragraphs (f) and (h) of the Bylaws of this Board may be waived and he may be recommended for certification after passing an appropriate oral and/or clinical examination. The final date for accepting applications under this classification shall be May 1, 1961.

k. Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, his familiarity with the current advances in the specialty, and the possession of sound judgment and of a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of the specialty. Oral, written, and clinical examinations shall be conducted

and required in the case of each applicant. This Board may conduct the oral and written examinations at the end of the required 3 years of special training, but shall not conduct the practical or clinical examination until the required 2 years of specialty practice have been completed. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examinations may be delegated to committees of not fewer than two individuals maturely qualified in the specialty. A full description of the method of conducting the examination shall be formulated in this Board's Regulations and Requirements, and provision for re-examination shall be made.

American Osteopathic Board of Proctology

Lester I. Tavel, *Chairman*, Houston, Texas; Arden M. Price, *Vice Chairman*, Kansas City, Missouri; Thomas B. Powell, Larned, Kansas; William H. Behringer, Jr., Allentown, Pennsylvania; Carlton M. Noll, *Secretary-Treasurer*, Blissfield, Michigan

DEFINITION OF SPECIALTY PRACTICE

For the purpose of clarification the following division of specialty practice is defined:

a. The practice of proctology shall consist of and include the treatment of diseases and conditions originating within or affecting the anus, rectum, perianal and perirectal areas, and related or complicating conditions not including the use of major surgery.

REQUIREMENTS FOR CERTIFICATION

To be eligible to receive a certificate of specialization from the American Osteopathic Board of Proctology, the applicant must meet all of the following minimum requirements except as provided in Article IV, Section 2, of the Bylaws of the American Osteopathic Board of Proctology.

a. He must have been graduated from an approved osteopathic college at least 5 years prior to application.

b. He must be licensed to practice in the state or territory where he conducts his specialty practice.

c. He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to application for examination by this Board.

d. He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or other equivalent institutional training satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board.

e. He shall be, and if certified continue to be, favorably known and recognized in his community and by his clientele as an osteopathic physician who is specializing in the practice of proctology and shall publicize his osteopathic affiliation in an ethical manner.

f. He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

g. A period of not less than 3 years of special training related to the specialty shall be required, after the required 1 year of internship, or its equivalent, but not necessarily immediately following the internship nor running 3 consecutive years except that in the case of applicants who graduated prior to 1946, the Board may waive the requirement of 3 years of special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement but in no case may an applicant graduated prior to 1946 be accepted for examination without at least 1 year of special training as defined. This training shall include:

(i) Advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

The minimum requirement in the basic sciences shall be 100 clock hours subdivided as follows:

Anatomy 10 hours; physiology 10 hours; biochemistry 10 hours; pathology 10 hours; pharmacology 10 hours; bacteriology and parasitology 10 hours.

The balance of 40 hours shall include such other basic sciences as this Board may require from time to time.

(ii) Active experience in diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty.

h. He must practice as a specialist in his field for a period of at least 2 years subsequent to the minimum 3 years of special training.

i. Training Requirements. (1) Active experience in the diagnosis and treatment in such amount and diversity that it will assure adequate training in the specialty. The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by studying under the preceptorship of a qualified specialist in this field supplemented by prescribed study conforming to a plan approved by this Board.

The minimum 3-year period of special training may be made up of varying combinations of several types mentioned above, as determined by this Board. It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training. This Board will recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association together with such others as this Board

may determine to possess facilities and personnel adequate to provide proper training.

j. Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, his familiarity with the current advances in the specialty, and the possession of sound judgment and a high degree of skill in the diagnosis and therapeutic procedures involved in the practice of the specialty. Oral, written, and clinical examinations shall be conducted and required in the case of each applicant. This Board of specialty certification may conduct its oral and written examinations at the end of the required 3 years of special training, but shall not conduct the practical or clinical examination until the required 2 years of specialty practice have been completed. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examination may be delegated to committees of not fewer than two individuals maturely qualified in the specialty.

k. In the case of any applicant who was engaged in the practice of his specialty by 1939, or prior thereto, and who graduated prior to 1936, and who meets the general requirements stated in Section 1, (a), (b), (c), (d), and (e) of the Bylaws of this Board, and has maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature, or otherwise has indicated his consistent interest and competence in his specialty, the requirements of Article IV, paragraphs (f) and (h) of the Bylaws of this Board may be waived and he may be recommended for certification after passing an appropriate oral and/or clinical examination. The final date for accepting applications under this classification shall be May 1, 1961.

l. Affidavit. The applicant shall file with the Secretary-Treasurer of this Board an affidavit in duplicate stating the percentage of his practice that was proctologic in character during the preceding 12-month period, based on the number of patients seen. An applicant must have a minimum of 75 per cent proctologic specialty practice to be eligible for examination.

m. Case Records. The applicant must file with the Secretary-Treasurer of this Board true and authentic copies of 50 detailed case records of proctologic cases he has cared for within the 4-year interval preceding the filing of his application and an affidavit that 200 case records are on file. The applicant must file an affidavit in duplicate certifying that the records are exact copies of true and authentic records in his files and that he personally cared for the cases represented. The case records and affidavit must reach the Secretary-Treasurer of this Board not later than April 15 for the applicant to be eligible for examination at the following annual meeting of this Board. All records become the property of this Board and are not returnable to the applicant.

n. Scientific Article. The applicant must file with the Secretary-Treasurer of this Board by April 15 of the year he desires examination, a 1,000-word article on a proctologic subject of his choosing or at the dictates of this Board. This Board may accept a previously published article on a proctologic subject. Grading of this scientific article will be based on English composition and neatness as well as upon the subject matter. Scientific articles must follow the standard in common use for composition in such articles.

American Osteopathic Board of Radiology

Theodore C. Hobbs, *Chairman*, Columbus, Ohio; George W. Rea, *Vice Chairman*, Kirksville, Missouri; Charles J. Karibo, Detroit, Michigan; Kenneth L. Wheeler, Philadelphia, Pennsylvania; Hervey S. Scott, Kansas City, Missouri; James N. Fox, Dayton, Ohio; Paul T. Lloyd, Philadelphia, Pennsylvania; John W. Tedrick, *Secretary-Treasurer*, Denver, Colorado; D. W. Hendrickson, *Assistant Secretary-Treasurer*, Wichita, Kansas

DEFINITION OF SPECIALTY PRACTICE

For the purpose of clarification the following definition of the divisions of the special field in radiology are given:

a. The practice of diagnostic roentgenology shall consist of and be confined to the performance and interpretation of diagnostic roentgenological procedures.

b. The practice of roentgenology shall consist of and be limited to the performance and interpretation of diagnostic roentgenological procedures and the use of roentgen rays in therapy.

c. The practice of radiation therapy shall consist of treatment of human disease by the use of roentgen rays, radium, and artificial radioactive substances.

d. The practice of radiology shall consist of and include the performance and interpretation of diagnostic roentgenological procedures and the diagnosis and treatment of human disease by the use of roentgen rays, radium, and artificial radioactive substances.

REQUIREMENTS FOR CERTIFICATION

The American Osteopathic Board of Radiology will accept for certification only osteopathic physicians who are specializing in one of the divisions of radiology coming under the jurisdiction of this Board. The proportion of specialization in practice which is acceptable to the Board may vary according to the size of the community and the conditions under which the applicant practices. The applicant must

be engaged in the practice of one of the divisions of radiology coming under the jurisdiction of this Board, i.e., diagnostic roentgenology, roentgenology, radiology, or radiation therapy, and he must present evidence satisfactory to the Board that he is so practicing.

Each application for certification under this Board must present evidence that he has met the following minimum requirements:

1. He shall have been graduated from an approved osteopathic college at least 5 years prior to consideration of his application by this Board.

2. He must have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to making application for examination by this Board.

3. He shall be, and if certified continue to be, favorably known and recognized in his community and by his clientele as an osteopathic physician who is specializing in the practice of one of the divisions of radiology coming under the jurisdiction of this Board and shall publicize his osteopathic affiliations in an ethical manner.

4. He must have satisfactorily completed an internship of at least 1 year in a hospital approved for intern training by the American Osteopathic Association or satisfactory to this Board. If graduated in 1942 or prior thereto, the applicant must have had training of value equivalent to that of an acceptable internship as determined by this Board. The intern year of 9 months as prescribed by the Selective Service Board during World War II shall be acceptable as fulfilling this requirement.

5. He must be licensed to practice in the state or territory where he conducts his specialty practice.

6. He must be able to show evidence of conformity to the standards set in the Code of Ethics of the American Osteopathic Association.

7. He shall provide documentary evidence of at least 3 years of special training related to the specialty for which he is seeking certification, after the required 1 year of internship, or its equivalent, but not necessarily running 3 consecutive years. This Board may modify the requirement of 3 years' special training by allowing a credit of 1 year of special training for each 5 years of specialty practice for a total credit not to exceed 2 years of the requirement, for physicians who graduated prior to 1946, but in no case may such applicant be accepted for examination without at least 1 year of special training as defined. This training shall include:

(a) Advanced study in the sciences: Anatomy, physiology, biochemistry, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

(b) Active experience in such amount and diversity that will assure adequate training in the specialty.

The special training may be provided in colleges, laboratories, clinics, hospitals, or other facilities satisfactory to this Board, or by studying under the preceptorship of a qualified specialist in this field, supplemented by prescribed study conforming to a plan approved by this Board.

The minimum 3-year period of special training may be made up of varying combinations of the several types mentioned above, as determined by this Board. It shall be this Board's duty to assist applicants in determining a suitable program of special training, but it is not this Board's function to supply the training. This Board may recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, together with such others as this Board may determine to possess facilities and personnel adequate to provide proper training.

8. In addition to completing the required special training, the applicant shall have engaged in specialty practice in his field for not less than 2 years before admission to examination.

9. Following satisfactory compliance with the prescribed requirements as to special training and specialty practice, the applicant shall be required to pass appropriate examinations planned to evaluate his understanding of the scientific bases of the problems involved in the specialty, his familiarity with the current advances in the specialty, and the possession of sound judgment and of a high degree of skill in the diagnostic and therapeutic procedures involved in the practice of the specialty. Oral, written, and clinical examinations shall be conducted and required in the case of each applicant. This Board may conduct the oral and written examinations at the end of the required 3 years of special training, but shall not conduct the practical or clinical examination until the required 2 years of specialty practice have been completed. The members of this Board shall personally review, if not perform, the grading of each written examination. The conduct of the clinical examinations may be delegated to committees of not fewer than two individuals maturely qualified in the specialty. A full description of the method of conducting the examination shall be formulated in this Board's Regulations and Requirements, and provision for re-examination shall be made.

10. In the case of any applicant who was engaged in the practice of his specialty by 1939, or prior thereto, and who graduated prior to 1936, and who meets the general requirements as stated above, and has maintained appropriate activity in American Osteopathic Association organizational work, specialty societies, hospital staff work, the pursuit of periodic postgraduate work, contributions to professional literature, or otherwise has indicated his consistent interest and competence in his specialty, the requirements of Article IV, Section 1, paragraphs (f) and (h) of the Bylaws may be waived and he may be recommended for certification after passing appropriate oral and/or written clinical examinations. The final date for accept-

ing applications under the classification shall be May 1, 1961.

11. Applicants for certification in any of the divisions of radiology shall prepare a thesis upon some phase of radiology as a part of the written examination for certification.

American Osteopathic Board of Surgery

Arthur M. Flack, Jr., *Chairman*, Philadelphia, Pennsylvania; Paul R. Koogler, Battle Creek, Michigan; J. Natcher Stewart, Dallas, Texas; William T. Barrows, Ontario, California; W. F. Simms, Jr., St. Louis, Missouri; Robert C. Erwin, Allentown, Pennsylvania; Louis R. Farley, Portland, Maine; Donald Siehl, Dayton, Ohio; Howard A. Graney, *Secretary-Treasurer*, Des Moines, Iowa; Mrs. E. F. Martin, *Corresponding Secretary*, Coral Gables, Florida

DEFINITION OF SPECIALTY PRACTICE

For the purpose of the operation of the American Osteopathic Board of Surgery, the practice of surgery and the surgical specialties assigned to the Board shall be defined:

1. The practice of surgery shall consist of and include that branch of medical science, art and practice, which is concerned with the correction of deformities and defects, the repair of injuries, and the diagnosis, care, and treatment of disease, the relief of suffering, and the prolongation of life.

2. The practice of neurosurgery shall consist of and include that branch of medical science, art and practice, which is concerned with the correction of deformities and defects, the repair of injuries, and the diagnosis, care, and treatment of diseases of the nervous system and associated structures.

3. The practice of orthopedic surgery shall consist of and include that branch of medical science, art and practice, which is concerned with the correction of deformities and defects of the bony skeleton and associated structures, the repair of injuries, and the diagnosis, care, and treatment of diseases of the bones, joints, and associated structures.

4. The practice of peripheral vascular surgery shall consist of and include that branch of medical science, art and practice, which is concerned with the correction of deformities and defects of the peripheral vessels, the repair of injuries, and the diagnosis, care, and treatment of diseases of the peripheral vessels and associated structures.

5. The practice of plastic surgery shall consist of and include that branch of medical science, art and practice, which is concerned with the repair of injuries and the correction of deformities and defects to the integument, muscles, the bony skeleton and associated structures.

6. The practice of urological surgery shall consist of and include that branch of medical science, art and practice, which is concerned with the correction of deformities and defects, the repair of injuries, and the diagnosis, care, and treatment of diseases of the urogenital system and associated structures.

REQUIREMENTS FOR CERTIFICATION

The American Osteopathic Board of Surgery shall accept for examination for certification only osteopathic physicians who are specializing in surgery or one of the surgical specialties assigned to the Board.

The applicant must be engaged in the practice of surgery or one of the surgical specialties assigned to the Board—neurosurgery, orthopedic surgery, peripheral vascular surgery, plastic surgery, or urological surgery—and he must present evidence to the Board that he is so practicing.

It shall be the policy of the American Osteopathic Board of Surgery to require that, with his application, each applicant submit a list of his operative procedures for the 12 month period immediately prior to making application, giving the date, name of hospital and case number, patient's initials, name of the surgeon, operative procedure, pathologist's report and case termination. This list shall be certified by the administrator of the hospital in which the operative procedures were performed.

The list shall be accompanied by a supplementary list in which the operative procedures for the year are broken down into segregated totals indicating the number of each type of operative procedure performed by the applicant during the 12-month period. The totals of both lists must agree.

It shall be the policy of the Board to require the Credentials Committee to carefully scrutinize the scope of surgical practice represented in each applicant's report. Unless an applicant presents evidence that the scope of his surgical or surgical specialty practice is sufficiently varied and of a major character (as shown by the records submitted), the Credentials Committee shall not recommend him for examination without an investigation by one or more certified specialists not located in the applicant's immediate vicinity, who have been appointed by the Board for the purpose of determining the applicant's qualifications. The applicant shall be responsible for the expenses incurred in the conduct of such an investigation.

If the investigation is conducted in the same manner and under the same requirements as for a clinical examination and the applicant is recommended for examination, the Board may, at its discretion, accept the investigation as the equivalent of a clinical examination. The expenses paid by the applicant for the investigation shall be considered as payment of expenses for his clinical examination.

Each applicant for examination for certification in surgery or one of the surgical specialties assigned to the American Osteopathic Board of Surgery must present evidence that he has met the minimum requirements and shall:

1. Have been graduated from an approved osteopathic college at least 7 years prior to April first of the year in which his application is submitted for consideration by the Board.

2. Be licensed to practice in the state or territory where he conducts his specialty practice.

3. Have been a member in good standing of the American Osteopathic Association and of his state or divisional society for a continuous period of at least 3 years immediately prior to making application for examination by the Board.

4. Be, and if certified continue to be, favorably known and recognized by his clientele as an osteopathic physician specializing in the practice of surgery or one of the surgical specialties assigned to the Board and shall publicize his osteopathic affiliations in an ethical manner.

5. Declare that he is familiar with the Code of Ethics of the American Osteopathic Association and the interpretations thereof and certify that he will abide by the provisions of the Code of Ethics as set forth, interpreted, and/or amended from time to time.

6. Have completed an internship of at least 1 year in a hospital acceptable to the Board. The intern year of 9 months, as prescribed by the Selective Service Board during World War II, shall be acceptable. For physicians who graduated in 1942 or prior thereto, the Board may accept other qualifications in lieu of internship where the applicant's surgical experience and ability are beyond question.

7. Have completed a minimum of 3 years of formal training in surgery or one of the surgical specialties assigned to the Board, after the required 1 year of internship, or its equivalent, but not necessarily running 3 consecutive years.

For physicians who graduated in 1946 or prior thereto, the Board may modify the requirement of 3 years of formal training by allowing a credit of 1 year of formal training for each 5 years of specialty practice for a total credit of not to exceed 2 years of the requirement, but in no case may such applicant be accepted for examination without at least 1 year of formal training as defined.

During the period of formal training, the applicant shall have been the first assistant in the performance of not less than 400 major operative procedures. By first assistant is meant one who, in addition to acting as first assistant at the operative table, participated actively in the preoperative and postoperative care. In qualifying for examination for certification, only one credit for first assistantship is allowable for each case done by the surgeon regardless of the number of assistants working at the table.

The formal training program must be acceptable to the Board and made up, either in whole or in part, of:

a) Approved residency training;

b) Approved preceptorship training. Preceptorship training programs which commenced after January 1, 1951, shall have met the requirements of and been approved by the Evaluating Committee for the Register of Training Programs of the American College of Osteopathic Surgeons.

c) Approved graduate work in surgery, the surgical specialties, or the surgical sciences in a program acceptable to the Board.

In the evaluation and approval of combined, approved residency training programs in surgery and one of the surgical specialties, it shall be the policy of the Board to accept such training programs, providing the requirements of first assistantships have been fulfilled.

In the evaluation and approval of combined, approved residency training programs, approved preceptorship training programs, or residency and preceptorship training programs, it shall be the policy of the Board to accept 1 year of approved training in specialties acceptable to the Board, or one of the surgical sciences conducted in an approved graduate school program, as a third year of required formal training, providing at least 2 years of approved formal training in surgery or one of the surgical specialties have been completed and the requirements of first assistantships have been fulfilled.

Not more than 1 year's credit shall be given for graduate work in approved graduate school programs unless approved by the Evaluating Committee for the Register of Training Programs of the American College of Osteopathic Surgeons, the Committee on Accreditation of Postgraduate Training and the Board of Trustees of the American Osteopathic Association.

It shall be the Board's duty to assist applicants in determining a suitable program of surgical training, but it is not the Board's function to supply the training. The Board will recognize as proper institutions for securing this training those institutions which are approved for special training by the approving agencies of the American Osteopathic Association, together with such others as the Board may determine to possess facilities and personnel adequate to provide proper training.

It shall be the policy of the Board to accept training in surgery or one of the surgical specialties taken in hospitals or institutions other than those approved for such training by the American Osteopathic Association as meeting the requirements of formal training subsequent to internship, providing the training program has been approved by the Evaluating Committee for the Register of Training Programs of the American College of Osteopathic Surgeons, or is approved by the American Medical Association as meeting the requirements for certification by the specialty boards of the American Medical Association. In no instance shall the Board accept or recognize training taken under an assumed identity of another individual or incognito.

8. In a training program, other than a residency approved by the Board of Trustees of the American Osteopathic Association, which was begun after January 1, 1951, the applicant shall have received satisfactory graduate training in the surgical sciences, including anatomy, physiology, biochemis-

try, pathology, pharmacology, and such other basic sciences as are necessary to a mature and comprehensive understanding of the prevention, diagnosis, therapy, and management of the disorders involved in the specialty.

A minimum of 100 clock hours shall be required in the basic science training program, subdivided as follows:

a) A minimum of 10 clock hours each in anatomy, physiology, biochemistry, pathology, and pharmacology.

b) The remainder of the minimum required hours may be taken in any of the subjects mentioned or in other basic sciences related to the specialty.

The applicant must submit acceptable documentary evidence, which may be further investigated at the discretion of the Board, of having completed this graduate training in the basic sciences in colleges, laboratories, clinics, hospitals, or other institutions satisfactory to the Board.

9. Have practiced as a specialist in surgery or one of the surgical specialties for a period of at least 2 years subsequent to completion of the required minimum of 3 years of formal training prior to being examined. He shall provide notarized documentary evidence that he has performed a minimum of 200 major operative procedures upon his own responsibility subsequent to the completion of the minimum required period of formal training.

The applicant's scope of surgical practice must be such that his records will show that he has handled and is capable of handling (as shown by his morbidity, mortality, and end results) major operative procedures in his respective surgical specialty. An applicant whose records show that he has never performed what are commonly referred to as heavy surgical procedures on his own responsibility would not be eligible for admission to examination.

10. Present detailed case reports, acceptable to the Board, of 25 major operative procedures in which he was the responsible surgeon and handled by him as a surgical problem within the past 3 years. These reports shall include history, physical examination, laboratory examinations, preoperative diagnosis, and evaluation of the patient by the surgeon, detailed operative record, postoperative diagnosis, progress notes, gross and histological description and diagnosis of excised tissue, case termination, and summary.

11. Not printed.*

12. Provide letters of recommendation from two certified surgeons who are personally acquainted with the applicant, who can vouch for his surgical training, surgical experience, personal character, and who have personally observed the surgical skill of the applicant. The sponsors shall send their letters of recommendation direct to the secretary-treasurer or corresponding secretary of the Board.

13. Be available for a personal interview upon receiving notice from the secretary-treasurer or corresponding secretary that such an interview is required.

14. Demonstrate his eligibility for examination in any other manner required by the Board.

15. Signify his intention to qualify for change of certification, if certified by another board.

16. Submit his application, required documentary evidence, case reports, application fee, and letters of recommendation to the secretary-treasurer or corresponding secretary on or before April first.

Signed applications and all evidence submitted by an applicant to the Board, even though the applicant may withdraw as an applicant for certification, shall remain the property of the Board.

17. Not printed.*

NEUROSURGERY

Each applicant for examination for certification in neurosurgery must present evidence that he has met the Requirements for Examination and shall:

1. During the required minimum of 3 years of formal training, have been the first assistant in the performance of not less than 400 major operative procedures, 200 of which must be of a major neurosurgical nature.

2. During the required minimum of 2 years of specialty practice, have performed a minimum of 200 major operative procedures upon his own responsibility, 100 of which must be of a major neurosurgical nature.

3. Present detailed case reports, acceptable to the Board, of 25 major operative procedures of a neurosurgical nature in which he was the responsible surgeon and handled by him as a neurosurgical problem within the past 3 years. These reports shall include history, physical examination, laboratory examinations, preoperative diagnosis and evaluation of the patient by the surgeon, detailed operative record, postoperative diagnosis, progress notes, gross and histological description of excised tissue, case termination, and summary.

4. Demonstrate his eligibility for examination in any other manner required by the Board.

5. If this Board approves his application as to qualifications for examination in neurosurgery, the secretary-treasurer shall request the American Osteopathic Board of Neurology and Psychiatry to consider the application and, if acceptable, to examine the applicant in neurology.

6. If the applicant is successful before the American Osteopathic Board of Neurology and Psychiatry, the American Osteopathic Board of Surgery shall be so informed and shall, in turn, examine the applicant in neurosurgery.

7. If the applicant is successful in the examination before the American Osteopathic Board of Surgery, the Board shall make recommendation for certification to the Advisory Board for Osteopathic Specialists according to the regular procedure.

8. Upon final approval by the Board of Trustees of the American Osteopathic Association, a special certificate shall be issued in neurosurgery by the

*Items 11 and 17 omitted; these items refer to examination fees.

Board, signed by the chairman and secretary of the American Osteopathic Board of Neurology and Psychiatry, the chairman and secretary-treasurer of the American Osteopathic Board of Surgery, and the Executive Director of the American Osteopathic Association.

ORTHOPEDIC SURGERY

Each applicant for examination for certification in Orthopedic Surgery must present evidence that he has met the Requirements for Examination and shall:

1. During the required minimum of 3 years of formal training, have been the first assistant in the performance of not less than 400 major operative procedures, 200 of which must be of a major orthopedic nature.
2. During the required minimum of 2 years of specialty practice have performed a minimum of 200 major operative procedures upon his own responsibility, 100 of which must be of a major orthopedic nature.
3. Present detailed case reports, acceptable to the Board, of 25 major operative procedures of an orthopedic nature in which he was the responsible surgeon and handled by him as an orthopedic problem within the past 3 years. These reports shall include history, physical examination, laboratory examinations, preoperative diagnosis and evaluation of the patient by the surgeon, detailed operative record, postoperative diagnosis, progress notes, gross and histological description of excised tissue, case termination, and summary.
4. Demonstrate his eligibility for examination in any other manner required by the Board.

PERIPHERAL VASCULAR SURGERY

Each applicant for examination for certification in peripheral vascular surgery must present evidence that he has met the Requirements for Examination and shall:

1. During the required minimum of 3 years of formal training, have been the first assistant in the performance of not less than 400 major operative procedures, 200 of which must be of a major peripheral vascular nature.
2. During the required minimum of 2 years of specialty practice have performed a minimum of 200 major operative procedures upon his own responsibility, 100 of which must be of a major peripheral vascular nature.
3. Present detailed case reports, acceptable to the Board, of 25 major operative procedures of a peripheral vascular nature in which he was the responsible surgeon and handled by him as a peripheral vascular problem within the past 3 years. These reports shall include history, physical examination, laboratory examination, preoperative diagnosis and evaluation of the patient by the surgeon, detailed operative record, postoperative diagnosis, progress notes, gross and histological description of excised tissue, case termination, and summary.
4. Demonstrate his eligibility for examination in any other manner required by the Board.

PLASTIC SURGERY

Each applicant for examination for certification in plastic surgery must present evidence that he has met the Requirements for Examination and shall:

1. During the required minimum of 3 years of formal training, have been the first assistant in the performance of not less than 400 major operative procedures, 200 of which must be of a major plastic surgical nature.
2. During the required minimum of 2 years of specialty practice, have performed a minimum of 200 major operative procedures upon his own responsibility, 100 of which must be of a major plastic surgical nature.
3. Present detailed case reports, acceptable to the Board, of 25 major operative procedures of a plastic surgical nature in which he was the responsible surgeon and handled by him as a plastic surgical problem within the past 3 years. These reports shall include history, physical examination, laboratory examinations, preoperative diagnosis and evaluation of the patient by the surgeon, detailed operative record, postoperative diagnosis, progress notes, gross and histological description of excised tissue, case termination, and summary.
4. Demonstrate his eligibility for examination in any other manner required by the Board.

UROLOGICAL SURGERY

Each applicant for examination for certification in urological surgery must present evidence that he has met the Requirements for Examination and shall:

1. During the required minimum of 3 years of formal training have been the first assistant in the performance of not less than 400 major operative procedures, 200 of which must be of a major urological nature.
2. During the required minimum of 2 years of specialty practice have performed a minimum of 200 major operative procedures upon his own responsibility, 100 of which must be of a major urological nature.
3. Present detailed case reports, acceptable to the Board, of 25 major operative procedures of a urological nature in which he was the responsible surgeon and handled by him as a urological problem within the past 3 years. These reports shall include history, physical examination, laboratory examinations, preoperative diagnosis and evaluation of the patient by the surgeon, detailed operative record, postoperative diagnosis, progress notes, gross and histological description of excised tissue, case termination, and summary.
4. Demonstrate his eligibility for examination in any other manner required by the Board.

This section is published monthly to inform the practicing physician about new drug products and medical equipment made available on the market. It is a reference section prepared by THE JOURNAL *from descriptive material furnished by ethical manufacturers. The American Osteopathic Association does not necessarily advocate the use of these products nor disapprove any product not included. The purpose of the section is to provide trustworthy information in a convenient form.*

NEW PRODUCTS

DISPOSABLE GLOVE

Description • A new type of glove, called Wilson Tru-Touch, has been developed for use in procedures involving digital examination of the patient. The seamless glove is made from a polyvinyl formulation, is disposable, and offers extraordinary sensitivity and strength.

The Tru-Touch glove is said to offer tactile perception superior to that available with latex gloves; its low cost makes it validly disposable, thus avoiding the time-consuming cleaning and resterilizing of gloves. The Tru-Touch glove has no seams to bind or irritate, and the vinyl stretches to provide a light but firm fit, with no constriction of hand or fingers. The advantages of this type of glove were confirmed in a series of practical tests involving nonclinical procedures requiring high degrees of digital perception and dexterity. In addition, a group of doctors, nurses, and interns made comparisons of Tru-Touch gloves with two standard types of medical gloves including older style plastic examination gloves. The users reported an outstanding preference for the Tru-Touch glove, especially with regard to fit and sensitivity.

Although the new glove is designed for use in examinations, the manufacturers feel that disposable gloves for surgical procedures, which require greater durability and strength, can be produced which would have the same advantages and physical properties. Such gloves are expected to become available within the next few months.

Further information about these new gloves may be obtained from Mr. J. H. McLellen, Becton, Dickinson and Company, Rutherford, New Jersey.

GLUCAGON

Chemistry • Glucagon is a straight-chain polypeptide extracted from the pancreas, but unrelated to insulin. It contains twenty-nine amino acid residues and has a molecular weight of 3,485. Crystalline glucagon is a white powder containing less than 0.01 per cent zinc. It is relatively insoluble in water but is soluble at a pH of less than 3 or more than 9.5. Glucagon is stable in lyophilized form at room temperatures; in solution, it will remain potent for at least 30 days if kept under refrigeration. Commercially, glucagon is isolated from a side fraction produced during the manufacture of insulin.

Pharmacodynamics • Although parenteral administration of glucagon produces various physiologic effects, the most striking is the prompt elevation of blood sugar. In man, glucagon injections increase the liver's output of glucose and convert liver phosphorylase from an inactive to an active state. It has been established that glucagon acts only on liver glycogen, and the degree of effect depends on the hepatic glycogen reserve. The physiologic role of glucagon in carbohydrate metabolism has not been completely defined. Also, the specific stimulus for pancreatic secretion of glucagon is not known; however, a hyperglycemic substance was found to be secreted from the pancreas into the portal circulation when either the blood sugar was low or the insulin content of the blood was increased. There is some evidence that the pituitary growth hormone may stimulate glucagon secretion. Unlike epinephrine, glucagon does not produce a breakdown of muscle glycogen to lactate or pyruvate. The glycogenolytic action of glucagon is not blocked by agents that block epinephrine. Other physiologic actions of glucagon that may be clinically significant include inhibition of contraction of isolated gut, inhibition of gastric and pancreatic secretion, and decrease in gastric motility. Experiments have shown enhanced excretion of water and electrolytes in dogs and man under certain conditions. There are reports of a glycogenolytic reaction to glucagon in the skin and a decrease in plasma amino nitrogen.

Absorption; fate; excretion • Glucagon must be given parenterally to be effective. It is apparently inactivated in the liver by certain enzyme systems, not as yet identified.

Toxicology • It has not been possible to demonstrate any toxic effects of glucagon in laboratory animals with doses as high as 3,000 times the dose for a human subject. Daily administration of large doses for 6 months produced no harmful effects in normal test animals. In clinical use the drug has been remarkably free of side-effects. Nausea and vomiting may occur with the administration of large doses; however, it is noted that these conditions may be associated with hypoglycemia itself.

Indications • Currently, the chief clinical use of glucagon is to counteract severe hypoglycemic reactions that may occur during insulin treatment of diabetic patients or during insulin shock therapy in psychiatric patients. It is especially useful for terminating insulin shock coma. Intramuscular or subcutaneous injection of glucagon is effective and can be carried out by the patient's family, in cases of diabetic coma. Following insulin shock therapy, awakening is slower with glucagon than with glucose, and secondary hypoglycemic reactions occur only rarely. It is emphasized that oral feedings must be given as soon as the patient is awake, to maintain the effect initiated by glucagon injection. The effectiveness of glucagon in functional hypoglycemia is still undergoing investigation.

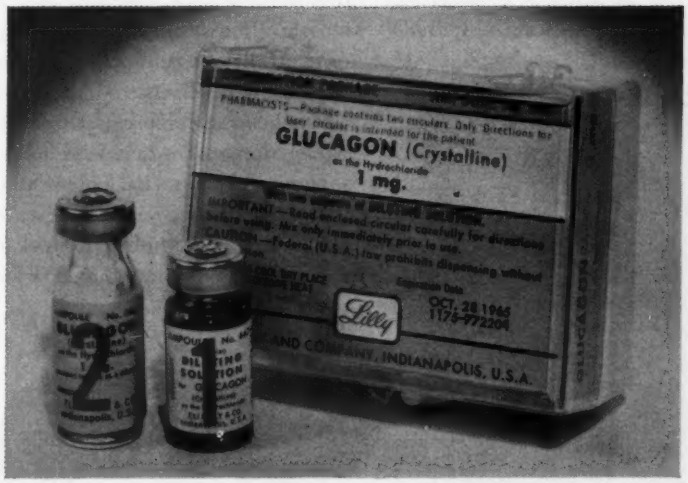
Contraindications • There are no known contraindications to the use of glucagon as a means of raising blood sugar. If glucagon does not awaken a patient thought to be in diabetic coma, other causes of coma must be sought. The use of glucagon in such a situation is not harmful.

Dosage schedule • Since prolonged hypoglycemic reactions may result in cortical damage, it is important that the patient be aroused as quickly as possible. In use, the lyophilized glucagon is dissolved in the accompanying solvent, and 0.5 to 1 mg. of the solution is given by subcutaneous, intramuscular, or intravenous injection. If the patient does not respond within 20 minutes, one or two additional doses may be given; however, in such cases the

use of parenteral glucose must be considered by the physician. When the patient responds, supplemental carbohydrate must be given to restore the liver glycogen and prevent secondary hypoglycemia. In insulin shock therapy the treatment is the same, glucagon being injected after 1 to 1½ hours of coma.

How supplied • Glucagon (crystalline) as the hydrochloride is supplied in lyophilized form with accompanying diluent, in single-dose size of 1 mg. with 1 cc. of diluent (Ampoule No. 666), or multiple-dose size of 10 mg. with 10 cc. of diluent (Ampoule No. 668).

Manufacturer • Eli Lilly and Company, Indianapolis 6, Indiana.



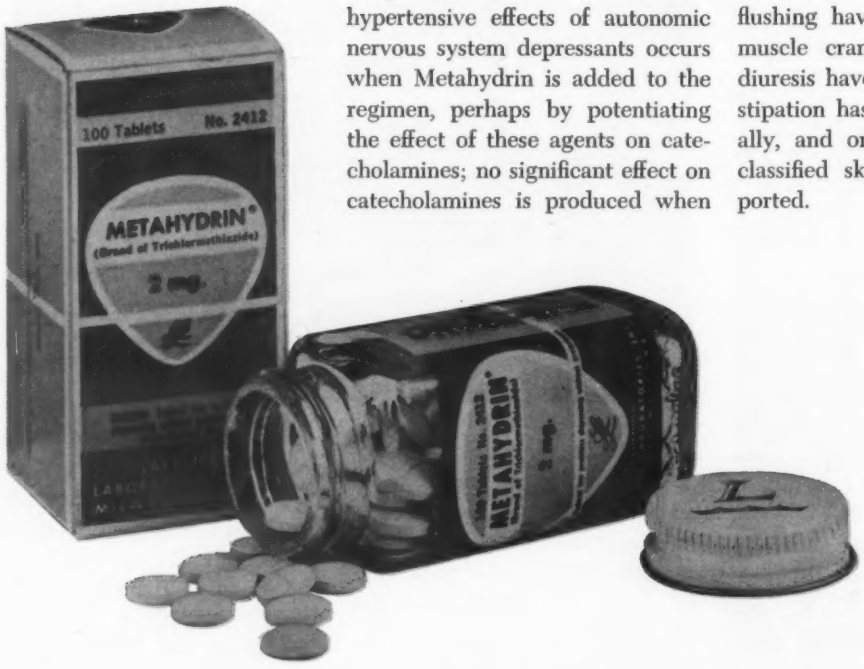
References • Physician's Bulletin 25:98 (Sept.-Oct.) 1960. Elrick, H., Witten, T. A., Arai, Y., New England J. Med. 258:476, 1958. Gibbs, G. E., Ebers, D. W., and Meckel, B. R., Nebraska State M. J. 43:56, (Feb.) 1958. Koulischer, N., and Pickering, D. E., A.M.A. J. Dis. Child. 91:103, 1956. Braun, M., and Parker, M., Am. J. Psychiat. 115:814, 1959. Esquibel, A. J., Kurland, A. A., and Mendelsohn, D., Dis. Nerv. System 19, No. 11, 1958. Whitehouse, F. W., and Bryan, H. G., Am. Pract. Dig. Treat. 10:1326, 1959. Carson, M. J., and Koch, R., J. Pediat. 47:161, 1955. Traisman, H. S., and Newcomb, A. L., Illinois M. J. 117: No. 2, 1960. Arieff, A. J., and others, Quarterly Bull. Northwestern Univ. M. Sch. 34:7, 1960. Kirtley, W. R., and Peck, F. B., Sr., J. Indiana State M. A. 51:1392, 1958.

METAHYDRIN®

Chemistry • Metahydrin is a brand of trichlormethiazide, with the chemical formula 3-dichloromethyl-6-chloro-7-sulfamyl-3,4-dihydro-1,2,4-benzothiadiazine-1,1-dioxide.

Pharmacodynamics • Metahydrin is an oral diuretic antihypertensive agent for control and treatment of edema and hypertension. The drug produces diuresis by inhibiting reabsorption of sodium in the renal tubules, resulting in enhanced excretion of sodium, chloride, and water, accompanied by small and transitory effects on potassium and bicarbonate excretion. The mechanism of the antihypertensive effect has not been determined, but may involve the observed increase in responsiveness of vascular smooth muscle after administration of the drug. Enhancement of the antihypertensive effects of autonomic nervous system depressants occurs when Metahydrin is added to the regimen, perhaps by potentiating the effect of these agents on catecholamines; no significant effect on catecholamines is produced when Metahydrin is administered alone. The action of Metahydrin is prolonged: onset of diuresis occurs within 2 hours, peak at 6 hours, with moderate diuresis continuing until about 24 hours after administration. The drug does not exert hypotensive effects in normal subjects. Metahydrin differs from previous thiazide agents in its greatly increased saluretic potency, its lesser tendency to induce hypochloremic alkalosis, and its tendency to preserve urinary acidity.

Toxicology • Studies with experimental animals indicate that Metahydrin possesses a toxicity pattern at least as favorable as those of its thiazide predecessors. In clinical use, side effects have been minimal, and evidence of organic toxicity or clinically significant electrolyte imbalance has been absent. In a few patients nausea and flushing have been reported, and muscle cramps due to excessive diuresis have been observed. Constipation has been noted occasionally, and one instance of an unclassified skin rash has been reported.



Indications • Metahydrin is indicated for all types of edematous disorders in which sodium and water are retained, including congestive heart failure, nephrotic syndrome, hepatic cirrhosis, premenstrual tension, and toxemia of pregnancy, drug-induced edema, fluid retention masked by obesity, and in hypertension with or without congestive heart failure. In hypertension, Metahydrin may provide effective control either alone or in combination with other agents.

Contraindications • Metahydrin is contraindicated in complete renal shutdown and in rising azotemia or development of hyperkalemia or acidosis in severe renal disease. In general, the precautions to be observed are those recommended for all potent diuretics. Although high-potassium diets have not been required usually, such supplementation should be prescribed if indicated. Care should be taken in treating patients with diabetes or gout. Pre-existing azotemia may possibly be increased, and rising levels may necessitate discontinuing treatment. Since Metahydrin is known to potentiate most of the nondiuretic hypotensive agents, its addition to an established regimen should be initiated with caution, to avoid precipitous decrease in blood pressure. The optimum dosage for each agent in combined therapy should be developed gradually.

Dosage schedule • As is usual with hypotensive agents, the dosage of Metahydrin must be carefully adjusted to the individual patient. Initial dosage in mild to moderately severe conditions may be 2 to 4 mg. twice daily. In severe conditions, particularly congestive heart failure, diuretic therapy should be initiated with an organomercurial diuretic such as Mercuhydrin intramuscularly for more rapid stabilization of the patient. When the patient's condition has been stabilized, 2 to 4 mg. of Metahydrin may be continued on a once-daily basis, the drug being administered in the morning. The maximum single effective dose is 8 mg. For patients who require higher doses regularly or are inadequately maintained on maximal dosage, occasional injections of Mercuhydrin may be given, or oral doses of Neohydrin may be added to the regimen. In replacing the earlier thiazide agents with Metahydrin, it should be noted that each 2 mg. of Metahydrin is equivalent to 250 mg. of chlorothiazide or flumethiazide and to 25 mg. of hydrochlorothiazide or hydroflumethiazide. Stringent salt restriction is usually unnecessary in patients controlled with Metahydrin.

How supplied • Tablets Metahydrin, 2 and 4 mg. scored, bottles of 100 and 1,000.

Manufacturer • Lakeside Laboratories, Inc., Milwaukee 1, Wisconsin.

References • Ford, R. V., Am. J. Cardiol. 5:407, 1960. Sherlock, M. H., Sperber, N., and Topliss, J., Experientia 16:184, 1960. Hutcheon, D. E., and Takasu, T., Clin. Pharmacol. & Therap. 1:444, 1960. Rubin, A. A., Beauregard, S. C., and Freeman, B. G., Fed. Proc. 19:101, 1960. Tabachnick, I. I. A., and Beil, H., Fed. Proc. 19:101, 1960.

PLANOLAR™

Chemistry • Each Planolar tablet contains 60 mg. of the 4-aminoquinoline compound Plaquenil sulfate (brand of hydroxychloroquine sulfate) and 300 mg. (5 grains) of aspirin. Plaquenil sulfate is a colorless crystalline solid, soluble in water to at least 20 per cent.

Pharmacodynamics • Planolar is an antirheumatic analgesic for rheumatoid arthritis, combining the cumulative antirheumatic and anti-inflammatory action of hydroxychloroquine with the prompt analgesic action of aspirin. The effect is to bring immediate relief of pain and at the same time initiate specific long-term therapy. Beneficial effects on involved joints may not become apparent until after several weeks of treatment; however, the drug is reported to be especially suited to long-term treatment, and daily oral administration can be continued almost indefinitely in most patients. In combined therapy, Planolar has been found to reduce the requirements of other agents such as steroid hormones, and therefore to reduce the risk of serious side effects from these agents over a long period. In addition to reducing joint effusion, inflammation, and in some cases deformity, the drug improves the patient's general condition, increases his exercise tolerance, and improves walking speed and hand grip. Laboratory tests indicate that the erythrocyte sedimentation rate may fall slowly, hemoglobin level may rise gradually, and gel reaction is decreased.

Toxicology • The acute oral toxicity of hydroxychloroquine (MLD in mice) is approximately one fifth that of chloroquine. Adverse reactions in patients are usually mild and transitory. Gastrointestinal symptoms, dermatitis, vertigo, headaches, lassitude, neurologic disturbances, leukopenia, or slight gradual weight loss may occur. Temporary blurring of vision due to interference with accommodation has been observed; corneal changes have been noted on slit-lamp examination in some patients. All side effects have been reversible by cessation of therapy or adjustment in dosage. If associated dermatologic conditions produce severe skin reactions to the drug, corticosteroids may help to reverse the effects.

Indications • Planolar is intended for the treatment of acute or chronic rheumatoid arthritis with or without adjunctive therapy.

Contraindications • Some physicians consider psoriasis a contraindication to the use of the 4-aminoquinoline compounds. In other conditions, the concomitant

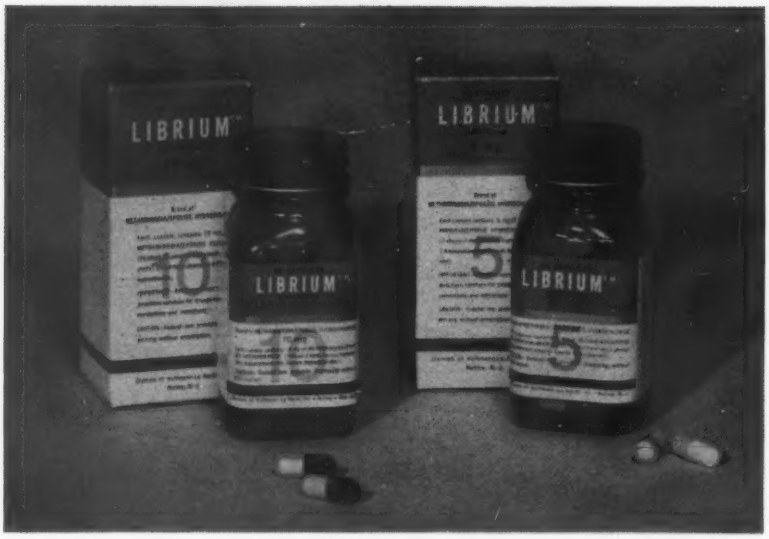
use of drugs known to cause dermatitis should be avoided. Planolar should be used with caution in patients with liver disease. Also, it is imperative that the drug be kept out of reach of children. The 4-aminoquinoline compounds in general are extremely toxic to small children, sometimes at relatively small dosage levels.

Dosage schedule • Individual response to Planolar varies greatly. The initial dosage is two tablets two or three times daily; occasionally the early appearance of troublesome side effects may require temporary reduction of the initial dosage. After 2 or 3 months, aspirin may no longer be required, and a maintenance schedule of Plaquenil sulfate alone (from 200 to 400 mg. daily) may then be substituted. Corticosteroids may be used concomitantly; after several weeks of combined therapy a reduction in steroid dosage may be indicated, and this can be done by reducing the dose every 4 or 5 days, by 2.5 to 15 mg. depending on the type of hormone being used.

How supplied • Tablets containing Plaquenil sulfate 60 mg. and aspirin 300 mg., in bottles of 100.

Manufacturer • Winthrop Laboratories, 1450 Broadway, New York 18, New York.

References • Cornbleet, T., A.M.A. Arch. Dermat. 73:572, 1956; J. Invest. Dermat. 26:435, 1956. Cramer, Q., Missouri Med. 55:1203, 1958. Mullins, J. F., Watts, F. L., and Wilson, C. J., J. Am. M. A. 161:879, 1956. Scherbel, A. L., Harrison, J. W., and Atdjian, M., Cleveland Clin. Quart. 25:95, 1958. Scherbel, A. L., Schuchter, S. L., and Harrison, J. W., Cleveland Clin. Quart. 24:98, 1957.



LIBRIUM® HYDROCHLORIDE

Chemistry • Librium hydrochloride has the chemical formula 7-chloro-2-methylamino-5-phenyl-3H-1,4-benzodiazepine 4-oxide hydrochloride. In its molecular structure, Librium is not related to any other drug.

Pharmacodynamics • Pharmacologic studies have shown that Librium abolishes fear and viciousness in animals without affecting their consciousness and alertness. Clinical studies have indicated that in emotionally disturbed patients Librium relieves anxiety and tension without altering motor performance, consciousness, or mental acuity.

Toxicology • Clinical and laboratory studies have revealed no evidence of bone-marrow depression, extrapyramidal effects, or damage to vital organs. There have been no reports of liver damage, jaundice, blood dyscrasia, or photosensitivity. The paradoxical elevation of affect noted in a few psychiatric patients may be secondary to relief of anxiety. The infrequent ataxia and drowsiness in debilitated and elderly patients can usually be avoided by adjustment in dosage. There have been isolated instances of minor skin rashes, nausea and constipation, and either increased or decreased libido. Withdrawal symptoms following treatment at recommended dosage levels have not been reported; abrupt cessation after prolonged overdosage, however, has produced withdrawal symptoms similar to those seen with barbiturates or meprobamate. The side effects of Librium have been infrequent and readily controlled by reducing the dosage. The need for discontinuing treatment because of undesirable effects has occurred very rarely.

Indications • Librium is indicated for clinical states of fear, anxiety, and tension. The drug is particu-

larly useful in: tension headache, preoperative and postoperative tension, premenstrual tension, and conditions associated with gastrointestinal, cardiovascular, gynecologic, or dermatologic disorders; chronic alcoholism, agitated depression, and certain psychoneuroses; geriatric patients or patients with debilitating disease; and behavior disorders of children with associated anxiety and tension.

Contraindications • As with other drugs affecting the central nervous system, patients receiving Librium should be advised against possibly hazardous activities until the correct maintenance dosage has been established. The concomitant administration of Librium and other psychotropic agents is not recommended. The usual precautions in treating patients with impaired renal or hepatic function should be observed.

Dosage schedule • The optimum dose varies with the type of illness and the patient's response. The suggested dosage for mild and moderate tension states is 5 or 10 mg. three or four times daily; for severe states 20 mg. three or four times daily; for geriatric patients 5 mg. two to four times daily; for children with behavior disorders 5 mg. two to four times daily.

How supplied • Capsules, 10 mg., green and black; 5 mg., green and yellow; bottles of 50 and 500. Capsules, 25 mg., green and white, bottles of 500.

Manufacturer • Roche Laboratories, Division of Hoffmann-La Roche Inc., Nutley 10, New Jersey.

References • Dis. Nerv. System 20: (Suppl.) 3-57, 1960. Curr. Therap. Res. 2:88, 227, 1960. J. Am. M. A. 172:1162, 1960. J. Louisiana M. Soc. 112:142, 1960. Dis. Nerv. System 21:264, 453, 527, 1960. Clin. Med. 7:1133, 1960. Minnesota Med. 43:463, 1960. Postgrad. Med. 28:101, 1960. Am. J. Psychiat. 117:362, 1960. Brit. M. J. 2:797, 1960.

TIS-U-SOL™

Chemistry • Tis-U-Sol is an irrigating solution formulated for surgical procedures. Each 1,000 cc. contains: NaCl, 8.0 gm.; KCl, 0.4 gm.; $Na_2HPO_4 7H_20$, 0.0875 gm.; KH_2PO_4, 0.0625 gm.; $MgSO_4 7H_2O$, 0.2 gm.; and glucose, 1.0 gm. The pH is approximately 6.4.

Pharmacodynamics • Tis-U-Sol is a sterile, nonpyrogenic, physiologic, irrigating solution. Clinical and in vitro studies have compared the effect of perfusion of tissue cultures with Tis-U-Sol with the effect of normal saline. Tis-U-Sol was reported to be more physiologic, effectively supporting normal cellular function, tissue survival, and normal wound healing. Investigators report that certain solutions such as normal saline, formerly considered physiologic, may exert damaging effects on living cells and thus indirectly take part in the production of complications following surgical treatment. Ideal solutions for maintaining function of the tissues should approximate the ion ratio of plasma.

Toxicology • Since Tis-U-Sol is a topical, physiologic agent, no harmful effects have been observed in its use.

Indications • Tis-U-Sol is useful in wound irrigation, surgical washing, soaking of transplants (autografts and homografts), irrigation in fenestration procedures, daily irrigation of colostomies, moistening of sponges and dressings, and preparing nutrient media for tissue culture, and also may be used as the medium for tissue- and bone-bank materials.

Contraindications • There are no known contraindications to the use of this substance.

Dosage schedule • Tis-U-Sol is to be used as needed for irrigation and lavage.

How supplied • The solution is supplied in pour-bottles with band and bail, 1,000 ml. each, in cases of six units. For fenestration procedures a pour-bottle adapter cap is available.

Manufacturer • Baxter Laboratories, Inc., Morton Grove, Illinois.

CURRENT LITERATURE

Viral hepatitis: clinical and laboratory manifestations

► The clinical and laboratory features of uncomplicated viral hepatitis are distinguished from those of the complicated forms of the disease in an article by John R. Neefe, M.D., in *Postgraduate Medicine*, August 1960. This is the second in a series of three papers, the first of which dealt with etiology, epidemiology, and prevention of viral hepatitis. To date, two types of virus have been recognized in this disease. These were first designated as virus IH (infectious hepatitis) and virus SH (homologous serum hepatitis), but following a recommendation from the World Health Organization the terms "virus A" and "virus B" became standard.

The usual incubation period of virus A ranges from 2 to 6 weeks; virus B, 1½ to 6 months. Although the disease is characterized by three stages, preicteric, icteric, and posticteric, cases of nonicteric infection seem to occur more frequently than icteric infections, especially in young children. Clinically, virus A and virus B infections are distinguishable only in the preicteric stage. The onset of virus A hepatitis often resembles that of various other acute infectious diseases such as influenza; in fact, the symptoms may direct attention away from the liver as the site of impact. Most of the acute symptoms subside after 2 to 4 days, to be followed by the appearance of dark urine and then overt jaundice. The onset of virus B hepatitis, however, is usually insidious, afebrile, and relatively benign. No specific cultural or serologic tests are available; properly selected hepatic tests constitute the most valuable nonspecific diagnostic aids. Although the typical patient with viral hepatitis and jaundice has an elevated serum bilirubin level, positive reaction to flocculation tests, normal total cholesterol, depressed cholesterol esters, and normal or slightly elevated alkaline phosphatase, all variations of this picture may occur. It is emphasized that 15 to 20 per cent of patients with acute viral hepatitis may show a negative response to flocculation tests. The many clinical variants of the disease may require such diagnostic procedures as needle biopsy of the liver, cholecystography, parasitologic examination, radiologic studies, and specific serologic or cultural procedures. Most patients with acute hepatitis achieve clinical and laboratory evidence of recovery within 3 months.

The incidence of complications may vary with the virus concerned and with the age, sex, and over-all condition of the patient. The following important complications are recognized: fatal viral hepatitis, relapsing or recurrent viral hepatitis, prolonged hepatitis, chronic virus hepatitis, the carrier state, and other posthepatis states including the posthepatitis syndrome, hyperbilirubinemia, and the Dubin-Johnson syndrome. The initial symptoms of fatal viral hepatitis often do not differ from those of a mild infection; in the fulminant type, death may occur within 10 days, sometimes before any indication of jaundice. In the subacute form, death usually occurs from 3 to 8 weeks after the onset, usually following prolonged or relapsing jaundice.

Guides to the diagnosis of hypothyroidism

► Despite the attention directed toward thyroid research and the high incidence of thyroid disease, the diagnosis of hypothyroidism is still frequently missed, according to a report by Bennett W. Billow, M.D., in the *New York State Journal of Medicine*, October 1, 1960. In the absence of the obvious symptoms of myxedema, many physicians fail to consider hypothyroidism as a diagnostic possibility. The disease masquerades as gastrointestinal gynecologic, neurologic, and circulatory diseases and in the symptoms of growth problems in children.

Hypothyroidism can generally be diagnosed in the physician's office. If there is some doubt, the patient's response to a trial of thyroid extract usually establishes the diagnosis. Patients with metabolic insufficiency who do not respond to thyroid extract should be given the more active

l-triiodothyronine. Thyroid hypertrophy and hyperplasia, including struma lymphomatosa, should be treated with thyroid extract to correct the underlying deficiency. Laboratory tests should be considered simply as aids to the clinical diagnosis. The basal metabolic rate, protein-bound iodine, and radioactive iodine tests have both merits and limitations. The triiodothyronine red-cell uptake test, serum butanol extractable iodine test, and plasma protein index are useful in research. The best diagnostic guides, however, are the case history, the physical examination, and the physician's clinical acumen, and the decision regarding therapy should be based on the results of this clinical evaluation.

Acute infectious arthritis in the aged and chronically ill

► An analysis of 19 cases of pyarthrosis seen during a 5-year period is presented by Robert F. Willkens, M.D., L. A. Healey, M.D., and John L. Decker, M.D., in the *A.M.A. Archives of Internal Medicine,* September 1960. Since 10 of these cases were encountered in a recent 18-month period, there is some doubt that acute septic joint disease is destined to become a medical curiosity, as some authors have suggested. Indeed, the disease is not rare in elderly, debilitated patients; it usually develops by hematogenous spread from other foci of infection.

Since the host response to infections in this group of patients is notoriously atypical, the recognition of septic joint disease depends mostly on the diligence with which it is sought. Joint paracentesis with adequate synovial fluid examination constitutes the essential diagnostic elements. Detailed descriptions of 6 cases in this series show how the disease can appear in association with pneumonia, as a result of alcoholism, or subsequent to even careful and strictly aseptic intra-articular injections for degenerative joint disease. Pyarthrosis often develops in patients who have been hospitalized for rheumatoid conditions; in such cases the signs and symptoms of joint sepsis may be discounted as simply a manifestation of the chronic disease.

Of the 19 cases in this series, Staphylococcus aureus was the infecting agent in 10, about half of which responded well to selective antibiotic therapy. No single program has been found uniformly successful in Staphylococcus aureus joint infections, but vancomycin deserves further clinical evaluation. Adequate systemic antibiotics gave good results in patients infected with pneumococci. The problem of open versus closed therapy remains controversial. It appears, however, that in any event the primary aim of therapy should be the destruction of the organisms within the joint space rather than the removal of the exudate per se. The question of active motion in therapy of the diseased joint as opposed to absolute immobilization likewise cannot be answered unequivocally. Since immobilization in chronically ill persons is likely to increase the incidence of complications, however, the treatment must be guided by the problems of the individual case. In the series reported, x-rays were of no help in the diagnosis.

An experiment in the use of radioactive gold for cervical cancer

► Evidence that radioactive gold is not advantageous in the treatment of invasive cervical carcinoma is presented by E. Stewart Taylor, M.D., N. Paul Isbell, M.D., and Robert E. Dean, M.D., in the *American Journal of Obstetrics and Gynecology,* November 1960. In the authors' experience, radioactive gold appeared to be less effective than external deep x-ray therapy as a supplement to radium in the treatment of the patients in the reported series. Moreover, the delayed complications of gold therapy were so serious as to cause the discontinuance of the study after only 2 years.

The investigation was designed to rule out the ambiguous elements of patient selection and inexact knowledge of the extent of the disease before treatment. Accordingly, in a series of 44 unselected patients, alternate patients were treated with radioactive gold and radium while the others received traditional radium and x-ray treatment. Before treatment, the diagnosis of invasive cervical cancer was proved histologically, and the extent of the disease was determined as exactly as possible by laparotomy and pelvic tissue biopsy. The alternate-patient method permitted the cases to fall into groups of approximately equal severity; for example, in the radium and x-ray group there were 13 patients in anatomic stages I and II, and in the gold and radium group were 14 in the same stages. Results of treatment showed that injection of parametrial tissues with colloidal radioactive gold in solution was associated with a 67 per cent rate of delayed major complications, three times the rate for the group treated with radium and x-ray. The 4- to 6-year survival rate in the gold-treated group was 19 per cent; in the group treated by traditional irradiation methods the survival rate was 48 per cent. On the basis of these results the authors have discontinued the use of radioactive gold in the treatment of cancer of the cervix.

In discussing the above paper, Dr. James F. Nolan suggested that the preliminary parametrial and nodal biopsy procedures may have exerted a deleterious effect on subsequent treatment procedures, because of disturbance of the anatomic planes, and that such a handicap would perhaps be greater for the radiogold-treated group than for the other group in the reported study. Dr. C. Paul Hodgkinson cited studies tending to confirm the above authors' findings and indicating that specific technics might not be significant in the high incidence of complications. The consensus was that the original enthusiasm for the radiogold method had not been justified by later results.

The evaluation of the degree of mitral insufficiency by selective left ventricular angiocardiography

▶ The method of contrast injection into the left ventricle is the basis for an evaluation reported by Viking Olov Björk, M.D., Herman Lodin, M.D., and Elis Malers, M.D., in the *American Heart Journal*, November 1960. Evaluation of the degree of regurgitation through the mitral valves is an important practical problem, since in cases of combined mitral stenosis and mitral insufficiency the conventional transventricular dilation of the mitral orifice can be recommended only when regurgitation is slight.

The authors' study was based on a series of 150 left ventricular angiocardiograms involving 33 patients with mitral insufficiency. The results indicate that the best method for evaluating degree of regurgitation through the mitral orifice is to compare the left atrial and aortic contrast filling after the injection of contrast medium into the left ventricle. Five stages were established with regard to how far the contrast has passed into the aorta when the left atrium is completely filled with contrast material, and the findings at operation in 13 cases were in agreement with the preliminary evaluations. The authors state their conviction that no closed operation should be performed on the mitral valves in cases in which the left atrium is completely filled when the contrast medium is at or below the top of the aortic arch.

Etiology and prevention of infectious hepatitis

▶ The changed concepts resulting from medical experience with hepatitis during World War II are reviewed by Robert Ward, M.D., Saul Krugman, M.D., and Joan P. Giles, M.D., in *Postgraduate Medicine*, July 1960. This is the first of a series of articles on infectious hepatitis, a disease which seems to be increasingly prevalent. Formerly the disease was known variously as acute catarrhal jaundice, epidemic hepatitis, and acute yellow atrophy of the liver; today it is viewed as a viral infection characterized by destructive changes in liver cells and accompanied occasionally by severe illness in adults and usually mild illness in children. Hepatitis occurs in both sporadic and epidemic forms, and constitutes an especially serious problem in military groups under conditions of war.

The current knowledge regarding causation was derived chiefly from intensive studies during and after the war. Although virus agents have been identified, no virus has as yet been isolated or successfully propagated, and attempts to reproduce the human disease in experimental animals have been largely unsuccessful. Definitive knowledge of hepatitis awaits the discovery of an experimental host and the development of a specific diagnostic test, serologic or otherwise. Valuable information has been gained, however, through the successful transfer of infectious hepatitis (IH) virus from man to man and the demonstration of virus in the stools of patients with the disease. As a result it is possible to compare the properties of virus IH with the virus of serum hepatitis (SH). Both viruses are extremely resistant to heat, cold, and the action of ether. In general they somewhat resemble the enteroviruses. Investigations have confirmed the epidemiologic evidence that infectious hepatitis is spread mainly by intestinal-oral pathways and that persons may be infectious before they become ill. The duration of infectivity after the acute phase of the disease has not been established. The disease occurs in all parts of the inhabited world, and has its highest incidence in the pediatric age group; both sexes appear to be equally susceptible, although the incidence may be higher in girls soon after menarche. In some areas the annual distribution of cases shows a seasonal pattern, with the highest rates in the United States in the late winter and early spring.

A high degree of immunity has been demonstrated to follow an attack of infectious hepatitis, and there is evidence of partial cross immunity between two strains of infectious hepatitis virus. Possible second attacks may be explained by the existence of multiple immunologically distinct types of infectious hepatitis virus, similar to those occurring among the enteroviruses. Gamma globulin prepared from normal adult human sera prevents icteric hepatitis when given during the incubation period. Control measures center on interrupting intestinal-oral pathways, by means of careful handwashing, sterilization of food utensils, exclusion of potentially infected food handlers, suppression of flies, and other measures to prevent fecal contamination of food, milk, and water. The usual methods of chlorinating water probably do not inactivate hepatitis virus. Persons who have had infectious hepatitis should not serve as blood donors. During the treatment of patients, disposable needles and syringes should be used. Prophylaxis against infectious hepatitis includes administration of gamma globulin in the amount of about 0.06 ml. per pound of body weight. The passive immunity thus gained may be transient, but if a subclinical infection occurs in the inoculated person, active immunity results.

Carcinoma in chronic thyroiditis

▶ The preferability of conservative medical treatment in all cases of chronic thyroiditis is questioned by Carl P. Schlicke, M.D., John E. Hill, M.D., and G. F. Schultz, M.D., in *Surgery, Gynecology & Obstetrics*, November 1960. With increasing recognition of the disease and improvement of clinical and laboratory methods for diagnosis, it has been presumed that all need for surgical intervention is obviated. A review of 189 cases, however, has led these authors to conclude that con-

servative treatment in chronic thyroiditis can hardly be justified in view of the danger of an associated malignant tumor within the diseased gland.

Among 1,682 cases of thyroidectomy a diagnosis of chronic thyroiditis was made in 189, of which 103 represented Hashimoto disease; 9 of the 103 patients also had carcinoma. Thus, 8.7 per cent of the patients undergoing thyroidectomy for Hashimoto disease were found to have associated carcinoma, and Hashimoto disease was present in 8.1 per cent of all patients operated on for carcinoma of the thyroid. Twelve of the 103 patients were under 20 years of age. The reasons for the increasing incidence of the various types of thyroiditis in younger age groups are not clear. In the absence of knowledge about pathogenesis, the most widely used conservative treatment is simply the administration of desiccated thyroid, which corrects associated hypothyroidism but does not alter the histologic changes in Hashimoto disease and does not protect against the growth of unsuspected carcinoma. Steroid compounds, so helpful in subacute thyroiditis, are of little value in the chronic disease; roentgen irradiation of thiourea compounds may increase the risk of malignant degeneration. Operative treatment can be carried out with minimal risk, however, and in the opinion of these authors and others, the considerable chance of malignancy is a compelling indication for surgical intervention in most cases of chronic thyroiditis.

Accidental ingestion and overdosage involving psychopharmacologic drugs

▶ Recently gathered information on the acute toxicity of psychopharmacologic agents in human beings is presented in *The New England Journal of Medicine,* October 13, 1960, by Howard M. Cann, M.D., and Henry L. Verhulst, M.S. Although toxicity studies are carried out in laboratory animals before a drug is placed in distribution, human data usually become available only after the drug has been in general use for some time. The information in this article is based on 280 cases of accidental ingestion and overdosage involving "tranquilizer" agents reported to the National Clearinghouse for Poison Control Centers by 60 local poison control centers over a 2-year period. Of the cases reviewed, toxic manifestations occurred in 45 per cent; children under 5 years of age were involved in 62.2 per cent of all reported incidents, and more than a fourth of these had toxic symptoms. The ingestion of phenothiazine derivatives led to mild and serious central-nervous-system depression, hypotension, convulsions, and extrapyramidal-tract motor activity. Convulsions and extrapyramidal-tract motor activity occurred also following overdosage with prochlorperazine, and in 1 case each of perphenazine and promazine ingestion. Single large doses of the rauwolfia derivatives caused mild central-nervous-system depression and flushing. Effects were mild also following meprobamate, benactyzine, phenaglycodol, and hydroxyzine.

As yet, treatment for this type of poisoning is nonspecific; the measures used are those dictated by experience with other potential poisons. Early emptying of the stomach is important and may necessitate gastric lavage, in view of the antiemetic action of many of these drugs. Treatment in most cases is symptomatic and supportive. It is emphasized, however, that for hypotension such as that induced by phenothiazine, epinephrine is useless and perhaps dangerous; blood, plasma, or plasma expanders should be used to maintain adequate circulating blood. For the muscle spasm of extrapyramidal syndrome, muscle relaxants such as methocarbamol and zoxazolamine may be helpful. For severe and unresponsive reactions to meprobamate poisoning, the relatively new technics of extracorporeal hemodialysis and exchange transfusion, the latter especially in children, should be investigated. With chlorpromazine, which is tightly bound to circulating plasma proteins, dialysis may not be effective, but exchange transfusion could remove most of the circulating drug, and this procedure has been suggested for chlorpromazine poisoning in children.

Mural emphysema of the uterus

▶ The importance of early recognition of gas-forming puerperal or abortal infection is emphasized in a report by Leland E. Holly, II, M.D., Shattuck W. Hartwell, M.D., John N. McNair, M.D., and Robert A. Lowry, M.D., in *The American Journal of Roentgenology, Radium Therapy, and Nuclear Medicine,* November 1960. Details are given of a case illustrating how a simple roentgenogram of the maternal abdomen may disclose the unsuspected presence of a gas-forming infection and may lead to saving the mother's life through the initiation of early specific antitoxic, antibiotic, and supportive therapy.

Although roentgenograms are commonly used to diagnose gas-forming infections in deep tissues in contaminated war wounds, the use of the plain roentgenogram of the maternal abdomen as a diagnostic aid in puerperal or abortal sepsis has been reported in only 2 cases. In the case reported here, there was evidence of peritonitis 48 hours after cesarean section, and a plain flat roentgenogram of the abdomen was requested to determine whether there was intestinal obstruction. Emphysema of the uterine wall and cavity was the unexpected finding in the roentgenogram. Eventually the case showed almost all the characteristic findings of typical gas gangrene, although clostridial organisms were not demonstrated in cultures. Escherichia coli, streptococci, and possibly staphylococci, however, are common causes of puerperal sepsis and may themselves produce toxins showing the same, but perhaps slower and lesser, signs of generalized gas gangrene infection; this is appar-

ently what happened in the case reported. The treatment included polyvalent antitoxin and antibiotics (particularly chloramphenicol), blood transfusions, and careful thorough maintenance of drainage of infected sites. Spontaneous amputation and extrusion of the uterus with spontaneous closure of the abdominal dehiscence completed the rather stormy and dramatic course of this patient.

It would appear that in many instances of gas infection early diagnosis and rapid specific treatment can prevent progress of the infection to the usually fatal septicemia and may actually prevent onset of general clostridial septicemia. Plain abdominal roentgenograms should be made in all cases of the puerperium and abortion which show certain variations from the usual clinical course.

Endocrine therapy in obstetrics and gynecology

▶ The necessity for frequent reviews of concepts concerning endocrine treatment is emphasized in a report by Leonard A. Aaro, M.D., in *Proceedings of the Staff Meeting of the Mayo Clinic,* September 28, 1960. Revised approaches are dictated by better understanding of endocrine physiology and the development of new hormone preparations. In particular, the physician must remember that the female reproductive organs constitute only a small part of the human endocrine system, and there are many reciprocal effects between the genital organs and glands that are anatomically far removed. Accurate diagnosis is essential to proper treatment; premature hormone therapy may confuse the diagnosis or even mask a malignant lesion. In view of the great number of preparations available, the wise physician will become thoroughly acquainted with a few good ones and limit their prescriptions to these well-understood compounds.

In general, estrogens are best administered by the oral route; in proper doses, oral estrogens are as effective as the parenteral types. Various conjugated estrogenic substances are available and are well tolerated by most patients. Of the orally effective synthetic estrogens, methallenestril usually is better tolerated than is diethylstilbestrol. Orally effective synthetic progestogens are now available which offer the advantages of convenience and economy over the natural progesterone, which in oral use is inactivated by the liver. Some of the newer compounds have been reported to exert greater androgenic effect, however. Several commercial preparations of gonadotropic hormone, both pituitary and chorionic, are available; however, it now appears that these substances have little application in gynecology. A pituitary hormone of great therapeutic worth in obstetrics is oxytocin, which is now produced synthetically (syntocinon). The natural oxytocin principle, pitocin, and the synthetic oxytocin have identical effects in clinical use. The value of relaxin in preventing premature labor is now doubted, and the role of this hormone in human physiology must be considered still unknown.

In clinical practice, one of the most helpful principles is that of thyroid administration in cases of infertility. Although hypometabolism may be difficult to prove, the fact remains that in many patients an increase of the basal metabolic rate to zero has been associated with increased fertility. In threatened and habitual abortion, endocrine therapy is controversial. The rationale for such treatment is that additional progestogen will help maintain pregnancy until the placental production of this hormone becomes adequate. The risk of androgenic effects on the fetus appears to be very slight.

Both prepubertal and postmenopausal atrophic vaginitis respond well to local estrogenic therapy by vaginal suppository or application of an estrogenic cream. In cases of dysfunctional bleeding, curettage is indicated except in girls under 20; after curettage recurrent bleeding may be controlled by estrogen administration, or by cyclic therapy involving both estrogens and progestogens. With regard to endometriosis, no suggested plan of hormone therapy has met with success. Severe dysmenorrhea can be ameliorated by the production of anovulatory cycles through the effect of administration and then withdrawal of oral estrogens. Some physicians now favor presacral neurectomy in such cases. Estrogens are useful in specific substitution therapy of severe vasomotor symptoms in menopausal women, but the treatment has disadvantages and should be used only when necessary. There is no definite proof that estrogens can cause malignant disease, however. In practical experience, hormone administration is rarely indicated in the management of the menopause.

BOOK REVIEWS

► *Books for review which were received during the period from January 5 to February 5 are listed on advertising page A-171. Reviews of these books will be published as space permits.*

► PROGRESS IN EXPERIMENTAL TUMOR RESEARCH. Edited by F. Homburger, Cambridge, Mass. Cloth. Pp. 476, with illustrations. Price $22.00. S. Karger, Basel, Switzerland. J. B. Lippincott Company, exclusive U.S. distributors, East Washington Square, Philadelphia 5, 1960.

Recent interest in tumor research has become world-wide, and the literature on this interdisciplinary subject is too scattered for the average interested reader to obtain. This volume brings together the pertinent progress made in experimental tumor research over the last few years. The book is conveniently divided into four sections with a total of thirteen chapters. The author (or authors) of each chapter gives the benefit of his experiences in that particular discipline. An international view is obtained by having authors from many countries review their particular interest.

The review on experimental tumor research begins with four well-written chapters on virology and its recent contributions to tumor research. An individual chapter is devoted to the polyoma virus and its host specificity and susceptibility. Other chapters discuss the agents that have been isolated from leukemia patients by injecting mice with blood cells and other tissues from these patients. An interesting discourse is presented on the role of these isolated agents to the etiology of leukemia. The final chapter in this section is written in German and points to the relationship of leukemia virus in mice as compared to the leukosis viruses in fowl.

The second section of the book is dedicated to the progress made in carcinogenesis. In five chapters the authors review and discuss enhancing and modifying factors of carcinogenesis. Many new compounds have been shown to be carcinogenic, and the classification of these compounds is so diversified that it is not likely that the mechanism of carcinogenic action is the same in each. Most authorities agree that the carcinogenic process is probably a loss of cell constituent, but there is no agreement on what this loss is. One of the chapters presents a valuable table summarizing experimentally induced neoplasms of the uterine cervix and vagina in animals. There is also an excellent description of normal and neoplastic cells as viewed with the electron microscope from ultrathin sections. The results of cytochemical analysis on the individual cells show great promise in gathering new information on normal and tumor cells. Alterations of the experimental methods in work with carcinogens can alter the results obtained. As indicated in one chapter, dosage, site of injection, animal species used, sex, the immunologic state, as well as other factors, are important in producing experimental tumors with carcinogens.

The third section of this book deals with the progress of tumor inhibitors. A good review is presented on chemical compounds and oncolytic antibiotics that produce cytotoxic reactions to cells. As pointed out by the author, the results obtained with mitomycin C show the most encouraging results, but he cautions about its many side effects when used on man. A short chapter describes the complexity of the oncolytic viruses in relation to various tumors.

The final section is devoted to the biochemistry of tumors in which the authors review the literature of 1958 and 1959 and give their biochemical theory of the carcinogenic process. The authors believe that there should be a unified concept for all the work going on in the studies of carcinogenesis, chemotherapy, metabolism, and other areas.

The book has been carefully written and edited. The references at the conclusion of each chapter are helpful. The contents will prove valuable to anyone interested in the subject of experimental tumors and cancer in general. It is unfortunate that this volume does not have a final index which would help with quick reference.

A. B. ULBRICH, D.O.

▶ PROGRESS IN PSYCHOTHERAPY. Volume V. Review and Integrations. Edited by Jules H. Masserman, M.D., Professor of Neurology and Psychiatry, Northwestern University and Director of Education, Illinois State Psychiatric Institute, Chicago; and J. L. Moreno, M.D., New York University, New York City; Director, Institute of Psychodrama and Group Psychotherapy, Beacon, New York. Cloth. Pp. 262. Price $8.50. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, 1960.

This represents the fifth of the annual issues in a series devoted to psychotherapeutic progress in these United States and in other countries. The 37 contributors include doctors of medicine from the United States and several other countries, representing specialty work in a number of areas including psychology and sociology.

It is in keeping with current events that the introductory article is "Psychiatric Encounter in Soviet Russia," with glimpses into the dynamically changing world behind the Iron Curtain. These glimpses are "anecdotal, speculative and personalized" by J. L. Moreno. In another chapter, M. S. Lebedinski writes of Soviet psychotherapy from a historical point of view and discusses current technics used.

Following in sequence are seven parts of the book devoted to fundamentals of psychotherapy, methods, special technics, current applications, interdisciplinary integrations, and developments abroad.

"Battlements and Bridges in the East" is the concluding chapter, written by Jules Masserman, an official representative of the American Psychiatric Association to countries abroad. With his profound ability to observe and understand human behavior he describes Czechoslovakia where he learned of their work in child psychiatry, neurosis, alcoholism, psychiatric therapy, and hypnosis. He then takes the reader through Vienna and ends with "final memories" of Yugoslavia.

If the reader is interested in Japan and its many years of experience in the psychiatric field he will find an interesting account in this book. Poland, India, and Israel are also discussed in relation to the development of their attention to psychiatric problems. The value of the interdisciplinary approach is recounted in relationship to sociometry in education, religion, and the process of "merging."

The discussion on progress in special technics is valuable to persons working with individuals as well as with large and small groups. An interesting approach to psychotherapy is described as the use of sound and movement contained in the dance.

Progress in psychotherapeutic approaches to the difficult social problems of alcoholism, delinquency, crime, and marital and industrial problems are subjects handled with courage as current practices are defined and elaborated.

Premature termination of psychotherapy as a reason for unsuccessful treatment completes an interesting section on methods. Other topics discussed are the "confrontation technic": one-visit psychotherapy with children, which offers invaluable help for therapists in a position of having to work with many patients in a limited period; and the ever-present emergency psychotherapy, previously an "area of silence" in psychotherapy.

"Drugs and Psychotherapy" is a chapter of "fundamentals" which may be read to advantage by all practicing physicians. Other fundamentals are discussed in relation to public health, interpersonal relations, group methods, and dynamic psychotherapy.

Subject and author indexes as well as chapter references complete a volume which offers an incentive to the practicing psychiatrist and a definite aid to the teacher of psychiatry. It might well form the basis for research for a psychiatric resident. It should be in medical research libraries.

FLEDA M. BRIGHAM, D.O.

▶ CHEMICAL OSTEOSYNTHESIS IN ORTHOPAEDIC SURGERY. By Michael P. Mandarino, M.D., Associate, Department of Orthopaedic Surgery, Hahnemann Medical College and Hospital; Associate, Department of Orthopaedic Surgery, Misericordia Hospital, Philadelphia, Pennsylvania. Cloth. Pp. 72, with illustrations. Price $4.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1960.

This issue in the American Lecture Series reports the author's experimental and clinical use of a rigid polyurethane foam, Ostamer, in bone repair. The 50 cases in which operations were performed by the author for bone lesions have shown most gratifying results in follow-ups up to 3 years. The total of cases reported by all investigators as of September 1, 1959, was 300; of this group, 94 per cent were considered successful. The orthopedic surgeon will doubtless wish to examine this evidence for himself and decide whether the seemingly dramatic results have any application to his own practice. This book is a preliminary aid to that end.

▶ THE ARTERIAL WALL. Edited by Albert I. Lansing, A.B., Ph.D., Chairman, Department of Anatomy, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania. Cloth. Pp. 259, with illustrations. Price $7.50. The Williams & Wilkins Company, 428 East Preston St., Baltimore 2, 1959.

This volume represents an attempt to review the data that are currently available on the structure, function, and chemistry of the major components of the arterial wall. One could well say that there are so many gaps in knowledge on this subject that this monograph is only a summarization of what is known in order to highlight that which is not known.

The vasa vasorum of arteries, their demonstration and distribution, for example, are discussed, but the editor feels that the extent and function of the vasa vasorum are still not known. Other questions still needing answers would be how lipids penetrate the arterial wall, why the pulmonary artery is normally resistant to atherosclerosis, and why diabetes mellitus is associated with aggravated

atherosclerosis. However, many answers may eventually come as a result of such progress as is recorded here on topics like the structure and behavior of vascular endothelium, perspectives in the study of arterial muscle, mucopolysaccharides of arterial tissue, and the metabolism of the arterial wall.

► OXYGEN SUPPLY TO THE HUMAN FETUS. Edited by James Walker, and Alec C. Turnbull, University of St. Andrews, Fife. Ed. 2. Cloth. Pp. 313, with illustrations. Price $10.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1960.

This book covers a symposium sponsored jointly by the Josiah Macy, Jr., Foundation and the Council for International Organizations of Medical Sciences which was held at Princeton, New Jersey, in December 1957 under the chairmanship of Dr. Clement A. Smith. The object of this symposium was to take stock of the situation at present by enabling clinicians and experimental workers to present their findings in humans and animals, and by discussion arrive at a clearer understanding of the many problems involved. Representatives of many branches of science were invited. The main papers are presented in full but considerable editing was necessary in the discussion groups to give emphasis to fields of interest.

It seemed that the group was not content with presenting a great variety of clinical observations and experimental findings, but the enthusiastic participants speculated well beyond available facts, reconsidered traditional viewpoints, and proposed new hypotheses which may serve as a guide to research in this field for years to come. Every library should make this book available to its students, and doctors interested in research would find it challenging.

► RECENT ADVANCES IN BIOLOGICAL PSYCHIATRY. Including a Havelock Ellis Centenary Symposium on Sexual Behavior. Edited by Joseph Wortis, M.D., Associate Clinical Professor of Psychiatry, State University of New York, Downstate Medical College, Brooklyn, New York. Cloth. Pp. 417, with illustrations. Price $13.50. Grune & Stratton, 381 Fourth Avenue, New York 16, 1960.

This book represents the proceedings of the fourteenth annual convention and scientific program of the Society of Biological Psychiatry, which was held in Atlantic City in June 1959. This particular convention included as the 1959 Academic Lecture a discussion of the neurology of motivation by Roland P. MacKay. The section on neuroanatomy and neurophysiology consists of six papers and discussions. The second part is a symposium on the conditioning of the electroencephalograph in animal and man. Part three is a Havelock Ellis Centenary Symposium on the analysis of the sex impulse. The fourth part concerns drugs and somatic approaches in psychiatry. Part five concerns psychopharmacologic research.

► ADVENTURE TO MOTHERHOOD. The Picture Story of Pregnancy and Childbirth. By J. Allan Offen, M.D., Assistant Professor of Obstetrics and Gynecology, University of Miami School of Medicine; Attending Obstetrician and Gynecologist, Jackson Memorial Hospital. Cloth. Pp. 67, with illustrations. Price $2.95. Audio Visual Education Company of America, Publishers. Taplinger Publishing Company, exclusive U.S. distributors, 119 West 57th Street, New York 19, 1960.

This book is a picture story for laymen, composed of colored photographs and brief descriptions of the conduct of a normal pregnancy and birth. Although the book is sold in ordinary bookstores, there is a supplement available only to physicians. It is a kit including a self-taking obstetric history, hospital information, notebook leaves, and twenty-three supplementary leaflets which the doctor can give to his patient to describe postpartum care or such complications as diabetes in pregnancy, the Rh factor, cesarean section, and constipation. The idea of the kit is to save time for the doctor while still providing individualized care and, on the patient's side, to allay fears and dispel old wives' tales related to parturition.

► INJURIES OF THE BRAIN AND SPINAL CORD AND THEIR COVERINGS. Edited by Samuel Brock, New York University. Ed. 4. Cloth. Pp. 739, with illustrations. Price $18.50. Springer Publishing Company, 44 East 23rd Street, New York 10, 1960.

Entirely new chapters on post-traumatic meningitis, and treatment of the bladder and related complications which develop in the spinal paraplegic, have been added to the fourth edition of a popular book. A chapter on legal aspects of injuries of the nervous system has been omitted since the subject has outgrown the scope of the text and demands separate treatment. New chapters have also been written on the pathology of brain injury, on intracranial hematomas, on neuroses which follow head and brain injury, and on the role of roentgenography in diagnosis of head injuries. Each of the thirty-one contributors has had a part in general revision, and the book is now considered to have a fresh orientation in its special field.

► LIPIDS AND THE STEROID HORMONES IN CLINICAL MEDICINE. Proceedings of an Applied Seminar of the Association of Clinical Scientists. Edited by F. William Sunderman, M.D., Ph.D., Sc.D., Director, Division of Metabolic Research and Clinical Professor of Medicine, Jefferson Medical College, Philadelphia, Pa.; and F. William Sunderman, Jr., M.D., Head, Chemistry Branch and Instructor in Clinical Pathology, U.S. Naval Medical School, Bethesda, Md. Cloth. Pp. 207, with illustrations. Price $10.75. J. B. Lippincott Company, East Washington Square, Philadelphia 5, 1960.

In this book are the edited proceedings of an Applied Seminar of the Association of Clinical Scientists. The first section is on the lipids, and it includes classification, methods for extraction, lipids

in serum, determination of total lipids in serum, cholesterol and cholesterol esters in serum, phospholipids in serum, total fatty acids in serum, free fatty acids in serum, lipoproteins in serum, lipids in feces, the meaning of hyperlipidemia, and clinical significance of lipids in cardiovascular disease. The second section, on the steroid hormones, includes discussions of fundamental chemical considerations, steroid hormone metabolites, colorimetric reactions for the estimation of the steroid hormones, partition chromatography of the steroid hormones, use of radioisotopes in steroid methodology, methodology of urinary 17-ketosteroids, methodology of corticosteroids and aldosterone, clinical significance of measurements of 17-ketosteroids and 17-hydroxycorticosteroids, estimation of urinary estrogens, and clinical significance of measurement of estrogens and progesterone metabolites.

▶ MEANING AND METHODS OF DIAGNOSIS IN CLINICAL PSYCHIATRY. By Thomas A. Loftus, M.D., Associate Professor of Clinical Psychiatry, The Jefferson Medical College, Philadelphia, Pennsylvania. Cloth. Pp. 169, with illustrations. Price $5.00. Lea & Febiger, Washington Square, Philadelphia 6, 1960.

The need for accurate diagnosis is perhaps stressed less often in psychiatric disorders than in any other area of medical practice. However, it is no less true here that a proper diagnosis will permit treatment on a more rational plane, particularly if an etiologic conception can be proved. This book does not take any one viewpoint—that is, it does not hold that any one "school" has a total answer. In fact, the author points out the danger of following a rigid dogma such as the libido theory or the concept of the tripartite mental apparatus with its id, ego, and superego. This author also adds his bit to the controversy on terminology by defending the use of many older terms, on the basis that new terms are not necessarily more descriptive simply because they are new.

The book presents, first, the meaning and method of diagnosis and, second, methods of psychiatric history taking. Then follow comparative histories in various disorders, from the common neuroses on through psychopathic personalities and organic reaction types. A special chapter concerns the psychiatric consultation, emergency consultation, doctor-patient relationship, and the use of drugs in diagnosis. Then follows a chapter of exercises in diagnosis from psychiatric histories and consultation notes.

This book is probably helpful to anyone concerned with a diagnosis of psychiatric disorders except, perhaps, the one whose theoretic basis is too firmly fixed; such a one, as suggested by Dr. Robert A. Matthews in the Foreword, would find the book much too eclectic.

▶ NEOPLASTIC DISEASE AT VARIOUS SITES. General Editor D. W. Smithers, M.D., F.R.C.P., F.F.R. Introductory Volume: A CLINICAL PROSPECT OF THE CANCER PROBLEM. By D. W. Smithers, M.D., F.R.C.P., F.F.R., Professor of Radiotherapy in the University of London; Director, Radiotherapy Department, Royal Marsden Hospital, and Institute of Cancer Research; Royal Center Hospital; Radiotherapist, Brompton Hospital. Cloth. Pp. 232, with illustrations. Price $8.50. E. & S. Livingstone, London. The Williams & Wilkins Company, exclusive U.S. distributors, 428 East Preston Street, Baltimore 2, 1960.

This is the introductory volume in a rather long projected series of books on the problem of neoplastic disease. The other volumes in this series are to be factual and to present available information in a not-too-controversial manner. However, this volume is speculative and philosophic, more or less designed to stimulate controversy or at least discussion. It is exceedingly well written. The chapter headings include, besides the introductory section, development and senescence, definition and classification, natural history, theories of causation, injury and isolation, hormones, prevalence, prevention and early diagnosis, quackery and education, aims of treatment and its local application, systemic treatment and its future, and a general summary. The book can be read with interest by anyone concerned with the diagnosis and treatment of cancer; there is much that can be considered food for thought, and perhaps there are even some ideas for research projects.

▶ THE BIOCHEMICAL RESPONSE TO INJURY. A Symposium organized by The Council for International Organizations of Medical Sciences, established under the joint auspices of UNESCO and WHO. Edited by H. B. Stoner with the assistance of C. J. Threlfall, The Toxicology Research Unit, Medical Research Council Laboratories, Carshalton. Cloth. Pp. 467, with illustrations. Price $12.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1960.

In his introduction, Dr. D. P. Cuthbertson, chairman of the symposium, states that an understanding of the response to injury is basic to the understanding of medicine as a whole. The formulation of the stress concept by Selye and its subsequent elaboration by him into the general adaptation syndrome have undoubtedly provided such a unifying concept. But in its present state, it seems to have outstripped the experimental evidence and by its very over-unification has tended to inhibit further research. Thus the truth written by Claude Bernard in 1865 comes to the fore: "[In] the ambition to explain prematurely at one step the whole of the disease . . . one loses sight of the patient, one gets a wrong idea of the disease, and by a false application of physiology, experimental medicine is hindered instead of being assisted in its progress." Many of the papers and discussions, which constitute the substance of this symposium, deal with these aspects.

Twenty-two leaders in their specialized fields participated and presented such topics as electrolytes and glycogen in injured tissues, metabolic responses to injury in cerebral tissue, tissue injury due

to reduced filterability of the erythrocytes, physical injury effects on lipid metabolism, disturbance of protein metabolism following physical injury, some problems of water metabolism following surgery, biochemical response to bacterial injury, and brucellosis as a model for metabolic studies on bacterial shock and inflammation.

The practical aspects of the discoveries in various experiments presented are not ignored; so the book should be of great interest to physicians and surgeons as well as to biochemists, physiologists, and experimental pathologists.

▶ CHEMOTHERAPY IN EMOTIONAL DISORDERS. The Psychotherapeutic Use of Somatic Treatments. By Frederic F. Flach, M.D., F.A.P.A., Assistant Professor of Clinical Psychiatry, Cornell University Medical College, New York; Assistant Attending Psychiatrist, Payne Whitney Psychiatric Clinic of the New York Hospital, and St. Vincent's Hospital, New York; and Peter F. Regan, III, M.D., F.A.P.A., Professor and Head of the Department of Psychiatry, The J. Hillis Miller Health Center, University of Florida College of Medicine, Gainesville, Florida. Cloth. Pp. 314, with illustrations. Price $10.00 McGraw-Hill Book Company, 330 West 42nd Street, New York 36, 1960.

This book is designed to answer such questions as: How may the physician integrate somatic and psychologic therapeutic approaches in a meaningful way? When confronted with a particular patient, how can he decide whether or not to employ a somatic agent? If he elects to use a somatic agent, which one will he select in order to achieve his desired goal? Another purpose is to bring some order to the very confusing field of chemotherapy in emotional disorders. Part of the confusion has been caused by preliminary reports on symptomatic treatment which in the long run has done nothing for the basic disorder, and part from the great welter of published information which requires intensive study before intelligent choices can be made. The book provides a thoughtful long look at the problem, and it should be welcomed by psychiatrists.

▶ INFANT FOODS AND FEEDING PRACTICE. By Herman Frederic Meyer, A.B., M.D. (F.A.C.P., F.A.A.P.), Associate Professor, Department of Pediatrics, Northwestern University Medical School; Associate Attending Physician, Children's Memorial Hospital; Consultant in Pediatrics, Swedish Covenant Hospital, Chicago, Illinois; Courtesy Attending Physician, Pediatrics, Evanston Hospital and St. Francis Hospital, Evanston, Illinois. Cloth. Pp. 332, with illustrations. Price $9.75. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1960.

Prompting the writing of this book is the enthusiasm with which the author's first text, *Essentials of Infant Feeding for Physicians,* was received. Since that time much material on infant nutrition has been published. Writing a second book under a changed title was concluded essential to emphasize and amplify those sections of the first text which had proved acceptable and helpful.

This is a rapid-reference text of practical infant feeding for physicians and nutritionists. The style is simple; the author speaks to the physician in a language that needs little reinterpretation for conveying the information to mothers. In controversial areas the author's view is clearly stated, yet the reader is permitted to formulate his own views. The work is well referenced.

It is a book to which the beginner will want to and the older physician will need to refer to frequently because of valuable current information.

▶ THE DISPENSATORY OF THE UNITED STATES OF AMERICA. 1960 Edition. New Drug Developments Volume. Volume 2. Edited by Arthur Osol, Ph.G., B.S., M.S., Ph.D., Professor of Chemistry and Dean of Science, Philadelphia College of Pharmacy and Science; Member of the Executive Committee of the Committee of Revision of the United States Pharmacopeia; and Robertson Pratt, A.B., Ph.D., Professor of Pharmacognosy and Antibiotics, University of California School of Pharmacy. Cloth. Pp. 240, with illustrations. Price $9.00. J. B. Lippincott Company, East Washington Square, Philadephia 5, 1960.

This book is a supplement to the twenty-fifth edition of the *United States Dispensatory.* It describes some 200 new drugs and gives additional information about others already listed in the big U.S.D. There are also general survey articles on certain groups of medicinals, such as the antibiotics with antitumor activity and the hypoglycemic sulfonylureas and biguanides.

▶ GLOSSARY OF WORDS AND PHRASES USED IN RADIOLOGY AND NUCLEAR MEDICINE. Prepared from various sources for Medical Secretaries, X-ray Technicians, Medical Students and Residents in Radiology. By Lewis E. Etter, B.S., M.D., F.A.C.R., Professor of Radiology and Chief, Radiological Service, Western Psychiatric Institute and Falk Clinic, School of Medicine, University of Pittsburgh; Consultant, Pittsburgh State Tuberculosis Hospital, Leech Farm, Pittsburgh, Pennsylvania. Cloth. Pp. 203, with illustrations. Price $8.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1960.

This book is designed primarily for the secretary and "girl Friday" of the doctor who practices in radiology and nuclear medicine. The first section includes radiologic symbols and semantics; the second is a suggested terminology for roentgenologic reports. Part three includes notes on writing roentgenologic reports and a group of sample roentgenologic reports; finally, there is a glossary. The book should reduce the number of questions that the medical secretary must ask the doctor and eliminate the errors which inevitably occur when dictation is being transcribed.

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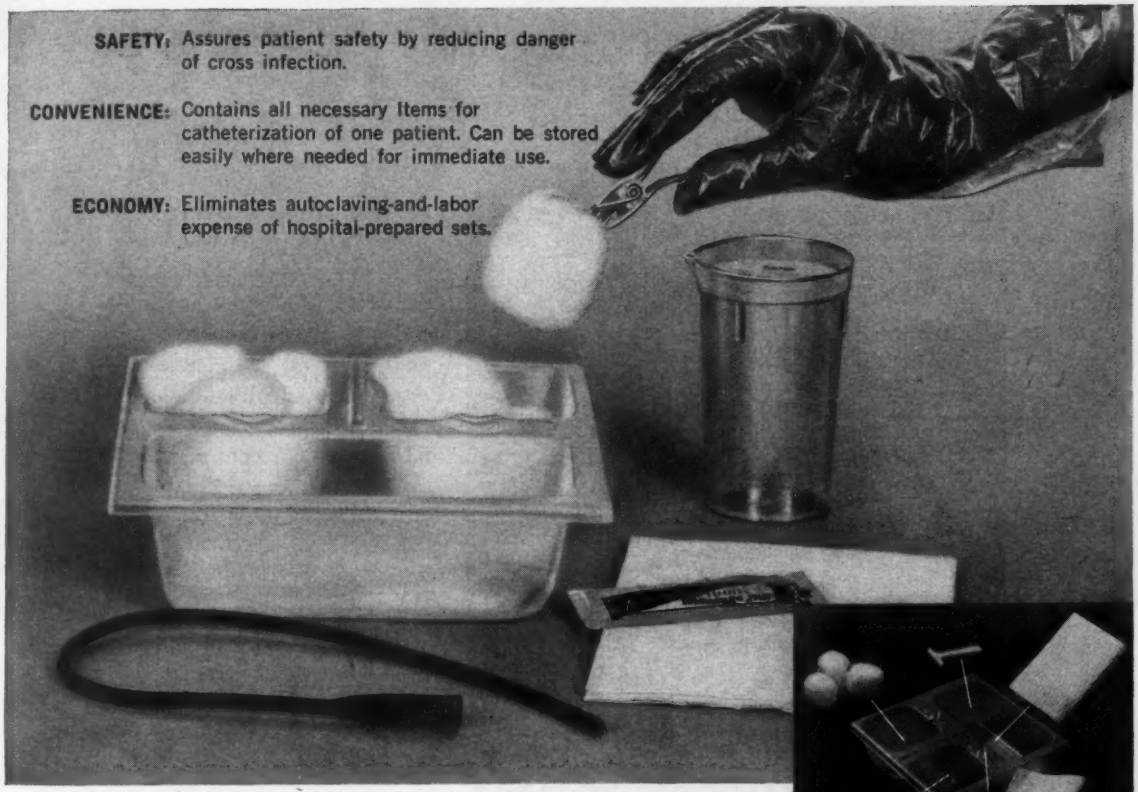
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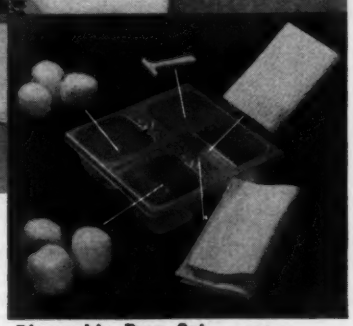

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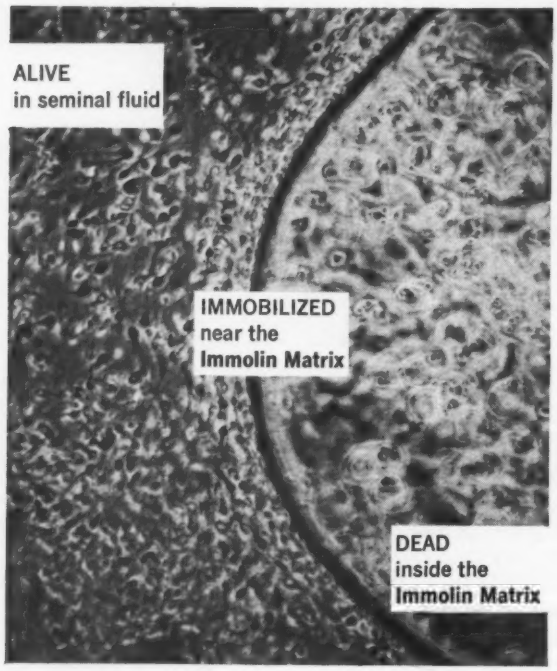

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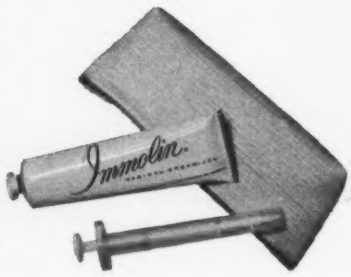

1. Goldstein, L. Z.: Obst. & Gynec. 19:133 (Aug.) 1957.
2. Finkelstein, R., and Goldberg, R. B.: Am. J. Obst. & Gynec. 78:657 (Sept.) 1959.

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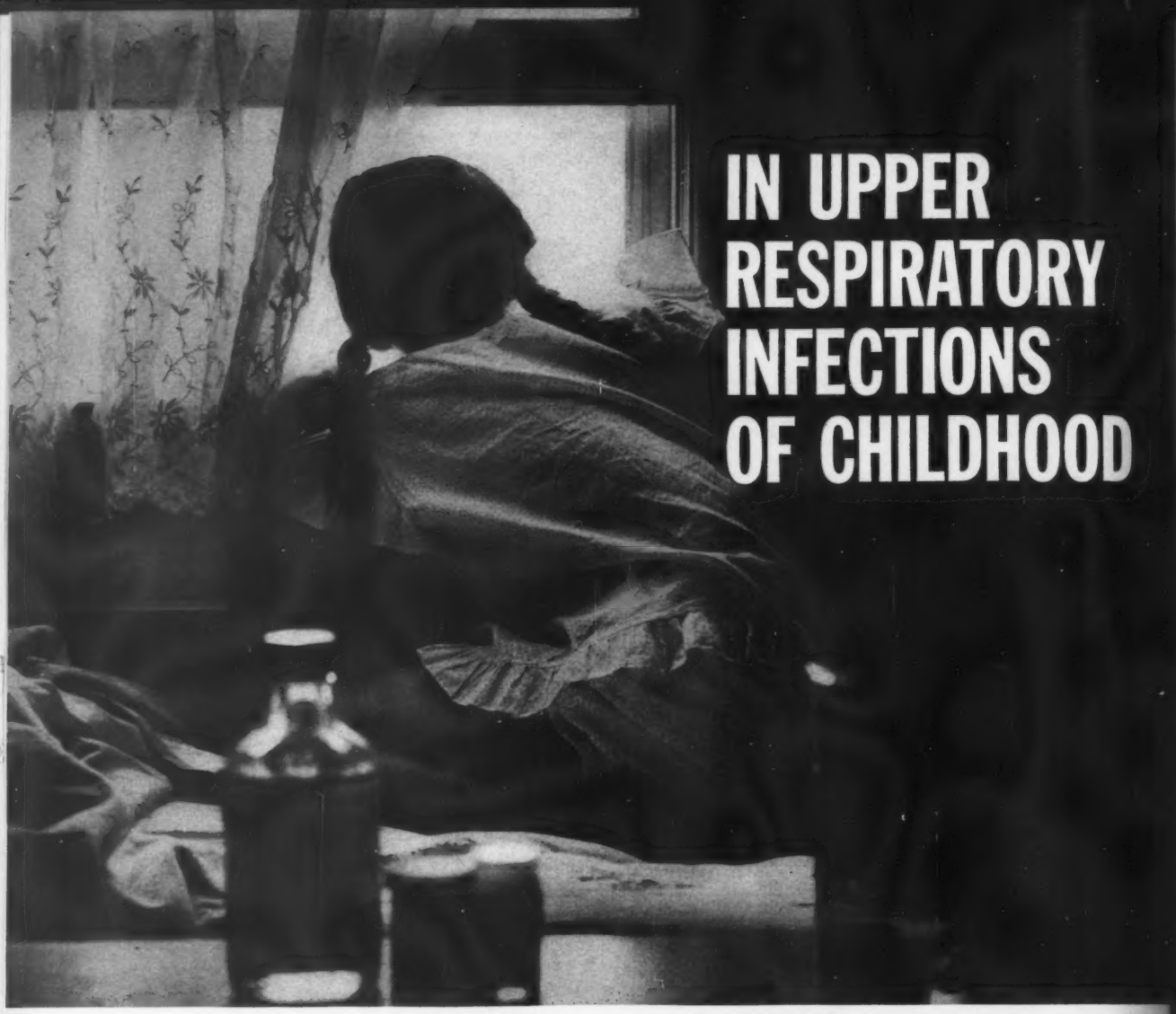

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*A. J. Vignec and J. G. Kuan, **New York J. Med.**, 60:3030, 1960.

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1. Robinson, W. D. Report to A.M.A. Council on Foods and Nutrition, J.A.M.A. 166:253 (Jan. 18) 1958. 2. Spies, T.D.: J.A.M.A. 167:975 (June 7) 1958.

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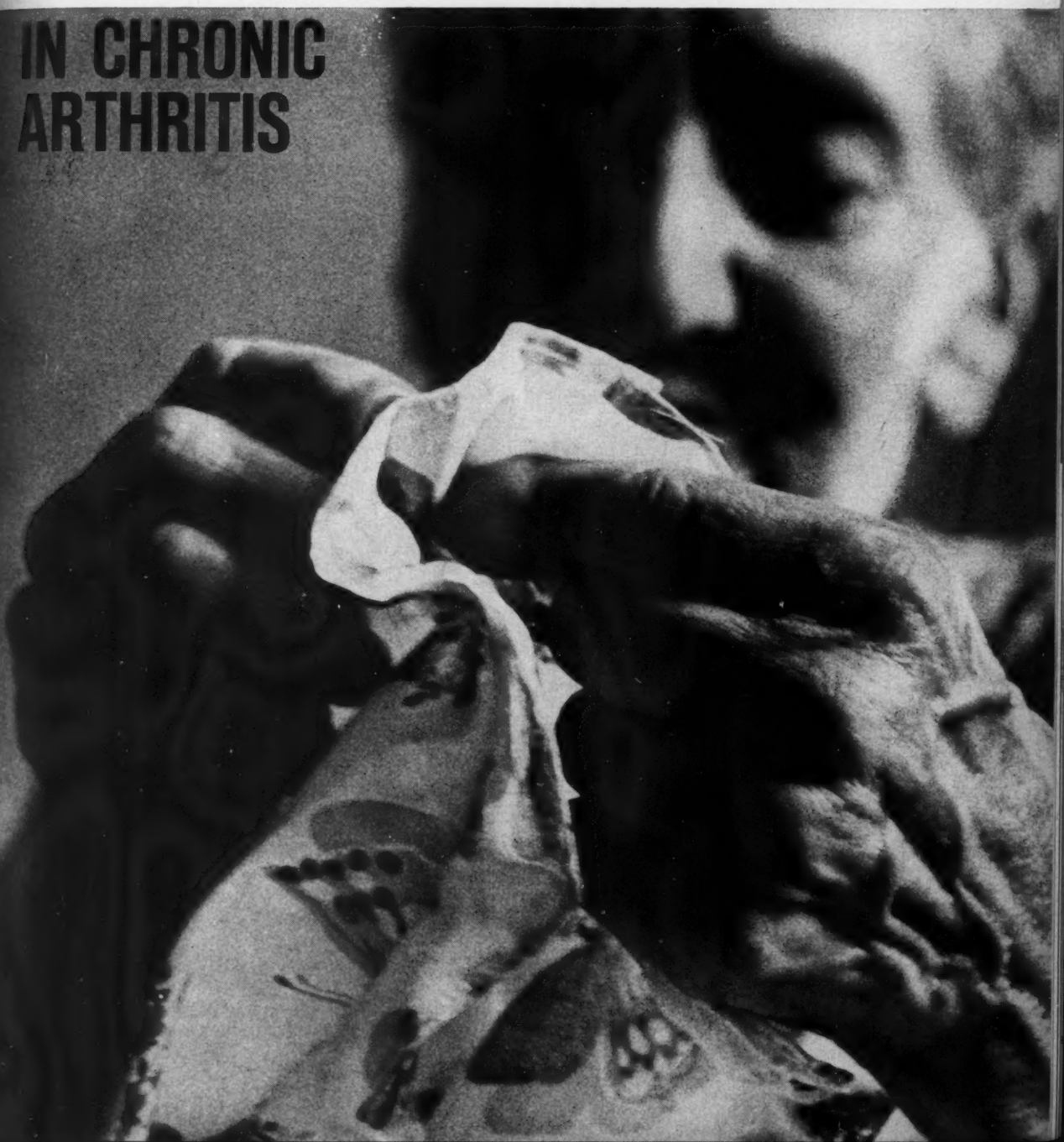

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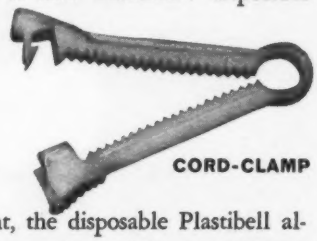

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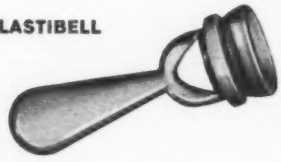

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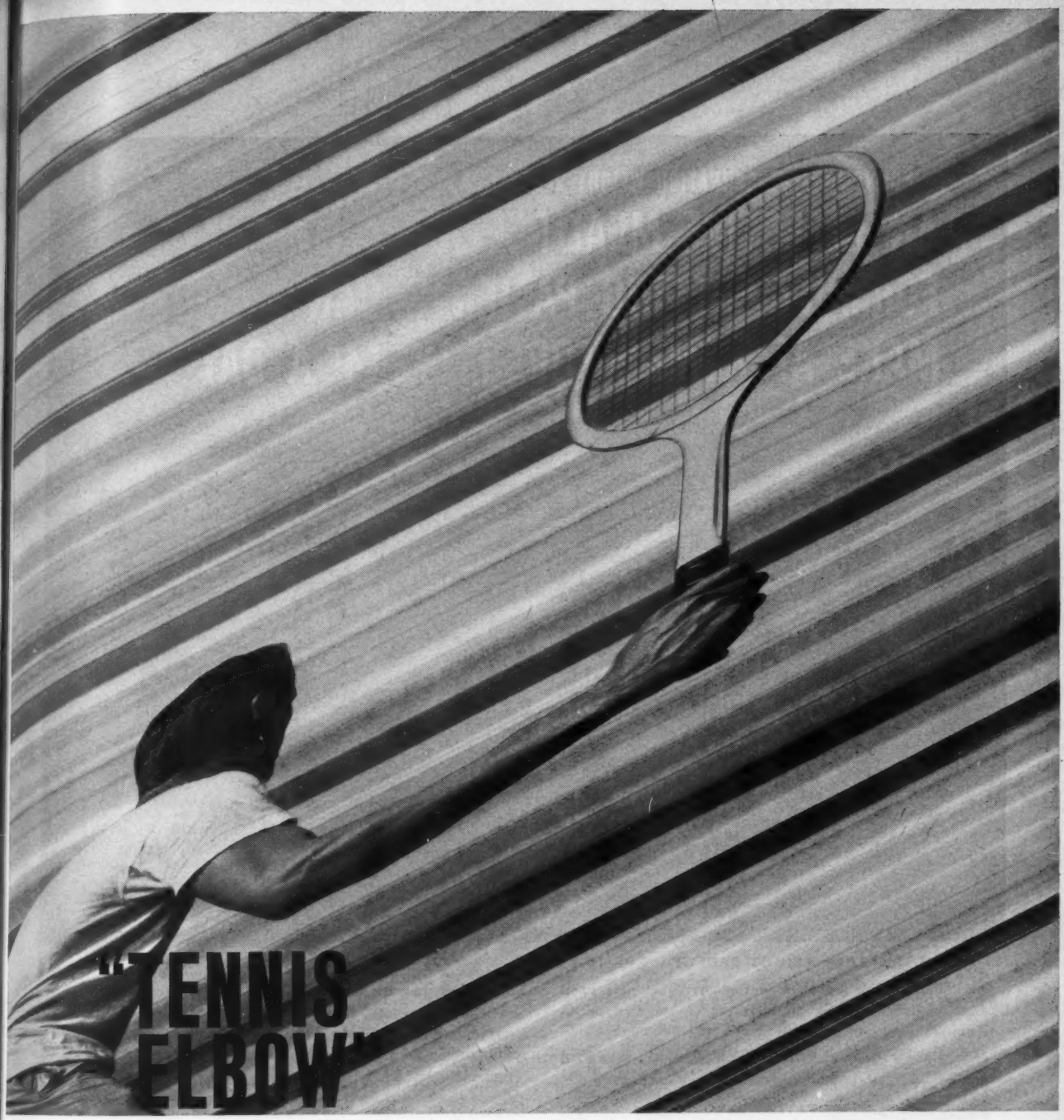

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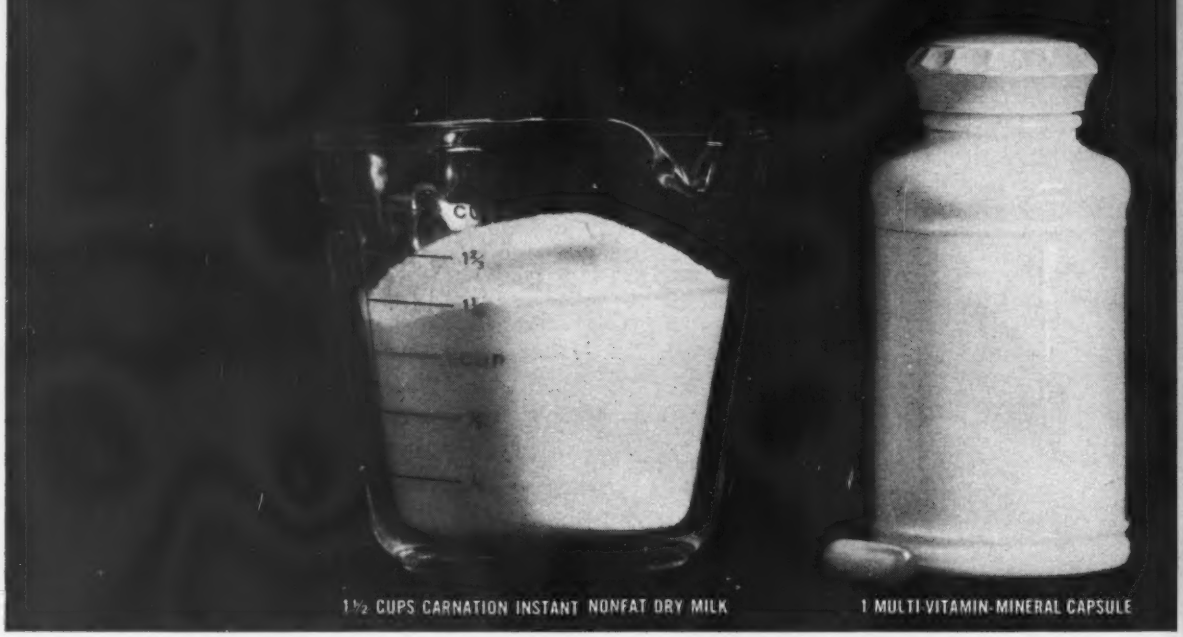

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This Plan is a *new* meal-replacement weight reduction regimen based on delicious milk products plus a standard multi-vitamin-mineral preparation.

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MIX one day's supply (4 glassfuls) of Carnation Plan Formula by stirring together in a container larger than a quart:

1½ cups CARNATION INSTANT NONFAT DRY MILK

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If desired, flavor with instant coffee or a variety of extracts.

Chocolate flavoring adds 30 calories per teaspoonful.

OR for a Single Glass: Mix a generous ½ cup Carnation Instant with 1 cup whole milk.

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The total expense for the Carnation Weight Reduction Plan —including the multi-vitamin-mineral preparation—is 44¢ a day. Compare this to the price dieters pay for the largest-selling pre-mixed product.

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Because the Carnation Plan Formula is based on fine, pure dairy products, it has a fresh milk flavor. Patients can vary this flavor by simply adding 3 to 4 teaspoons of instant coffee, or 1½ teaspoons of any of their favorite extracts, like vanilla, per quart.

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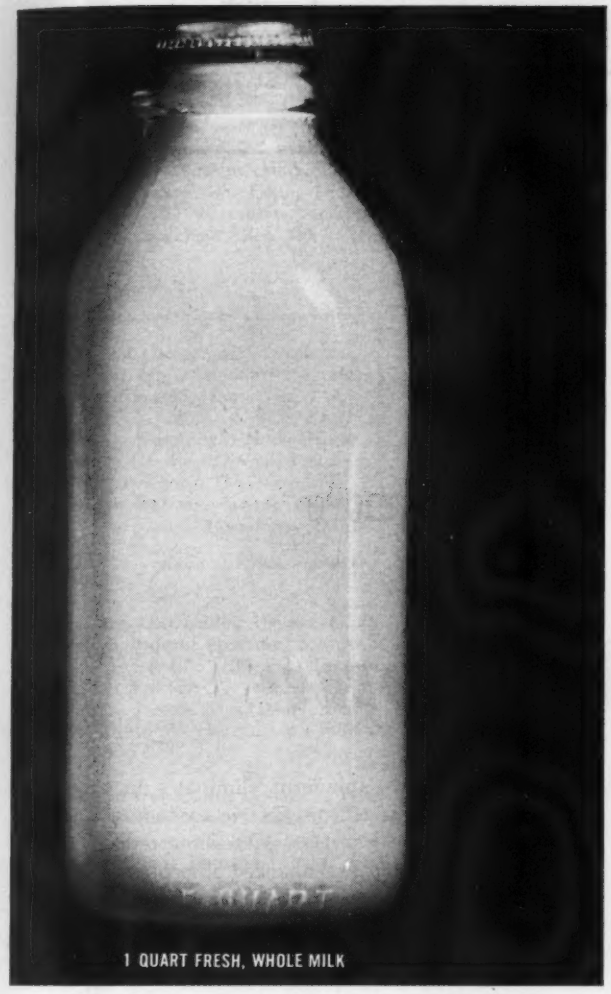
The Carnation Weight Reduction Plan provides balanced nutrition. Providing 1000 calories a day, the Plan gives the dieter 70 grams of high-quality, hunger-appeasing protein. This concentration of protein helps satisfy the appetite, and at the same time, keeps up the dieter's energy. The Plan meets the Daily Adult Requirement for all vitamins and minerals with established minimums.



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Vitamin A	6540 Units	1.3
Vitamin D	500 Units	1.2
Ascorbic Acid (C)	76 Mg.	2.5
Thiamin (B_1)	5.77 Mg.	5.7
Riboflavin (B_2)	8.6 Mg.	7
Niacinamide	16.8 Mg.	1.6
Iron	11.8 Mg.	1.1
Calcium	2.7 Gm.	3
Phosphorus	2.1 Gm.	2.8
Iodine	0.56 Mg.	5.6
Pyridoxine (B_6)	1.42 Mg.	**
Ca Pantothenate	11.8 Mg.	**
Vitamin B_{12}	2.0 Mcg.	**
Vitamin E	10.6 Units	**
Sodium	1.1 Gm.	**
Potassium	3.0 Gm.	**
Manganese	1.0 Mg.	**
Magnesium	1.3 Gm.	**
Copper	1.6 Mg.	**
Zinc	8.0 Mg.	**
Calories	1000	

**Calculations are based on a standard multi-vitamin-mineral supplement, 1½ cups Carnation Instant Nonfat Dry Milk, and 1 quart of whole milk.*

***M.D.R. (Minimum Daily Requirement) has not been established.*

The physician prescribes the multi-vitamin-mineral preparation to supply the vitamin-mineral elements outside the basic food drink. The physician may also wish to vary the number of meals the dieter replaces with the Carnation Plan Formula and the number of days the patient stays on the regimen. In this way the physician is given the opportunity to adjust the regimen of the dieter to suit the needs of *each* individual patient.

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Dieters can snack with low-calorie vegetables and greens like celery, cucumbers, radishes, green pepper, lettuce. These snacks are welcomed by the dieter, and they aid regularity. Coffee and tea (without sugar and cream) may be used. Plenty of water is generally recommended.

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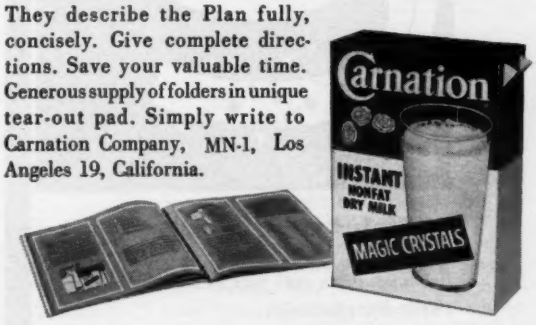

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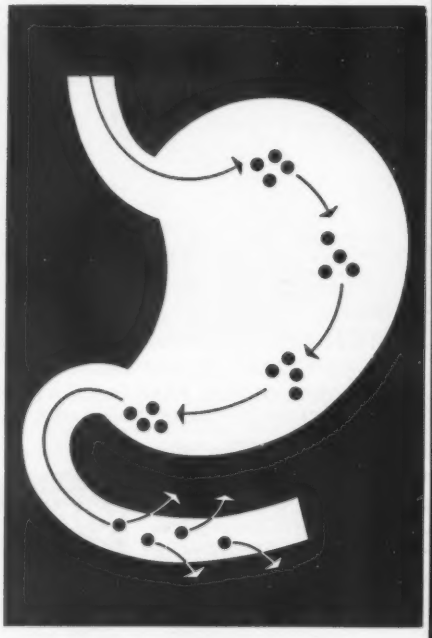

■ *"The high levels, plus prolonged duration of antibacterial activity and no decrease in absorption when given with food, should provide greater therapeutic effectiveness . . ."*[1]

1. Griffith, R. S.: Antibiotic Med. & Clin. Therapy, 7:320, 1960.

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For adults and for children over fifty pounds, 250 mg. every six hours.

In more severe or deep-seated infections, these dosages may be doubled.

Available in Pulvules®, suspension, and drops.

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Conventions and meetings

American College of Osteopathic Surgeons, annual clinical assembly, Denver Hilton Hotel, Denver, Colo., October 29-November 2. Executive Secretary, Charles L. Ballinger, Box 40, Coral Gables, Fla.

American Osteopathic Association, Board of Trustees, July 6-8, Drake Hotel, Chicago; House of Delegates, July 9-12, Drake Hotel, Chicago. Sixty-Sixth Annual Convention, Las Vegas, Nev., January 15-18. Program Chairman, W. Clemens Andreen, Andreen Clinic, 1475 Ford Ave., Wyandotte, Mich.

American Osteopathic College of Pathologists, annual meeting, May 6-8, Detroit Osteopathic Hospital. Program Chairman, Norman W. Arends, 12523 Third Ave., Detroit 3. Secretary, George E. Himes, 416 W. Fourth Ave., Flint 3, Mich.

American Osteopathic College of Proctology, refresher course, March 20-21; **annual clinical assembly,** March 22-24, The Rice Hotel, Houston, Texas. Program Chairman, Horace A. Emery, 2901 Ave. Q, Lubbock, Texas, Secretary, Eugene W. Egle, Lackland Clinic, 2335 Brown Rd., St. Louis 14.

Arizona, annual meeting, May 12-14, Ramada Inn, Phoenix. Program Chairman, L. A. Nowlin, 1325 W. McDowell Rd., Phoenix 32. Executive Director, Mr. Stanley N. Schultz, Pima Plaza Bldg., Suite 213, 2030 E. Broadway, Tucson.

Arkansas, annual meeting, Lafayette Hotel, Little Rock, May 6-7. Program Chairman, H. V. Glenn, 424 S. Main St., Stuttgart. Secretary, R. M. Packard, 726 W. Walnut St., Rogers.

Canadian Osteopathic Association, annual meeting, October 5-7. Program Chairman, Norman W. Routledge, 15 Ursuline Ave., Chatham, Ont. Secretary, Miss Joyce S. Currie, 609 Medical Arts Bldg., Montreal 25, Quebec.

Colorado, annual meeting, Broadmoor Hotel, Colorado Springs, April 13-15. Program Chairman, H. V. Anderson, 211-12 Carlton Bldg., Colorado Springs. Secretary, C. Robert Starks, 1459 Ogden St., Denver 18.

Florida, annual meeting, Carillon Hotel, Miami Beach, October 2-4. Executive Director, Mr. Barton K. Johns, 5009 Central Ave., Tampa 3.

Georgia, annual meeting, Gardens Motel, Callaway Gardens, May 15-17. Program Chairman, Raymond S. Houghton, 314 N. Dawson St., Thomasville. Secretary, Alfred R. Haight, 2170 Idlewood Rd., Tucker.

Illinois, annual meeting, Palmer House, Chicago, April 20-23. Executive Director, Mr. Douglas O. Durkin, Room 521, 53 W. Jackson Blvd., Chicago 4.

Indiana, annual meeting, French Lick Sheraton Hotel, French Lick, May 20-23. Program Chairman, Loyd H. Riley, Odon. Secretary, Arabelle Baker Wolf, 4840 N. Michigan Rd., Indianapolis 8.

Iowa annual meeting, Hotel Savery, Des Moines, May 7-9. Program Chairman, John W. Campbell, 204 Security Bldg., Davenport. Secretary, Mr. Herman W. Walter, 519-20 Insurance Exchange Bldg., Des Moines 9.

Maine, annual meeting, Hotel Samoset, Rockland, June 22-24. Executive Director, Mr. George R. Petty, Monmouth.

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But, what about the atonic bowel?

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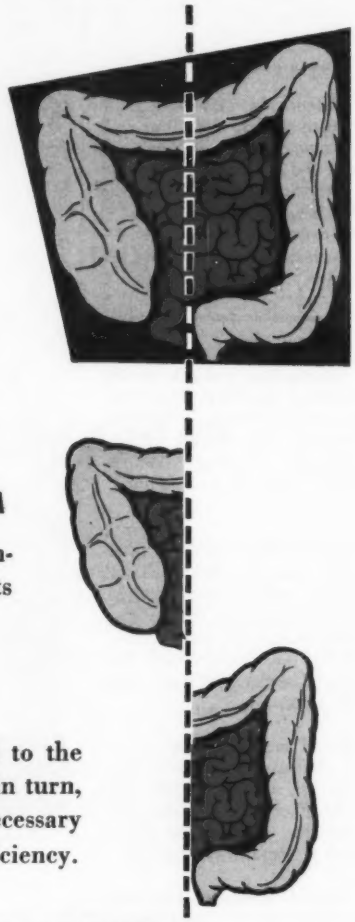

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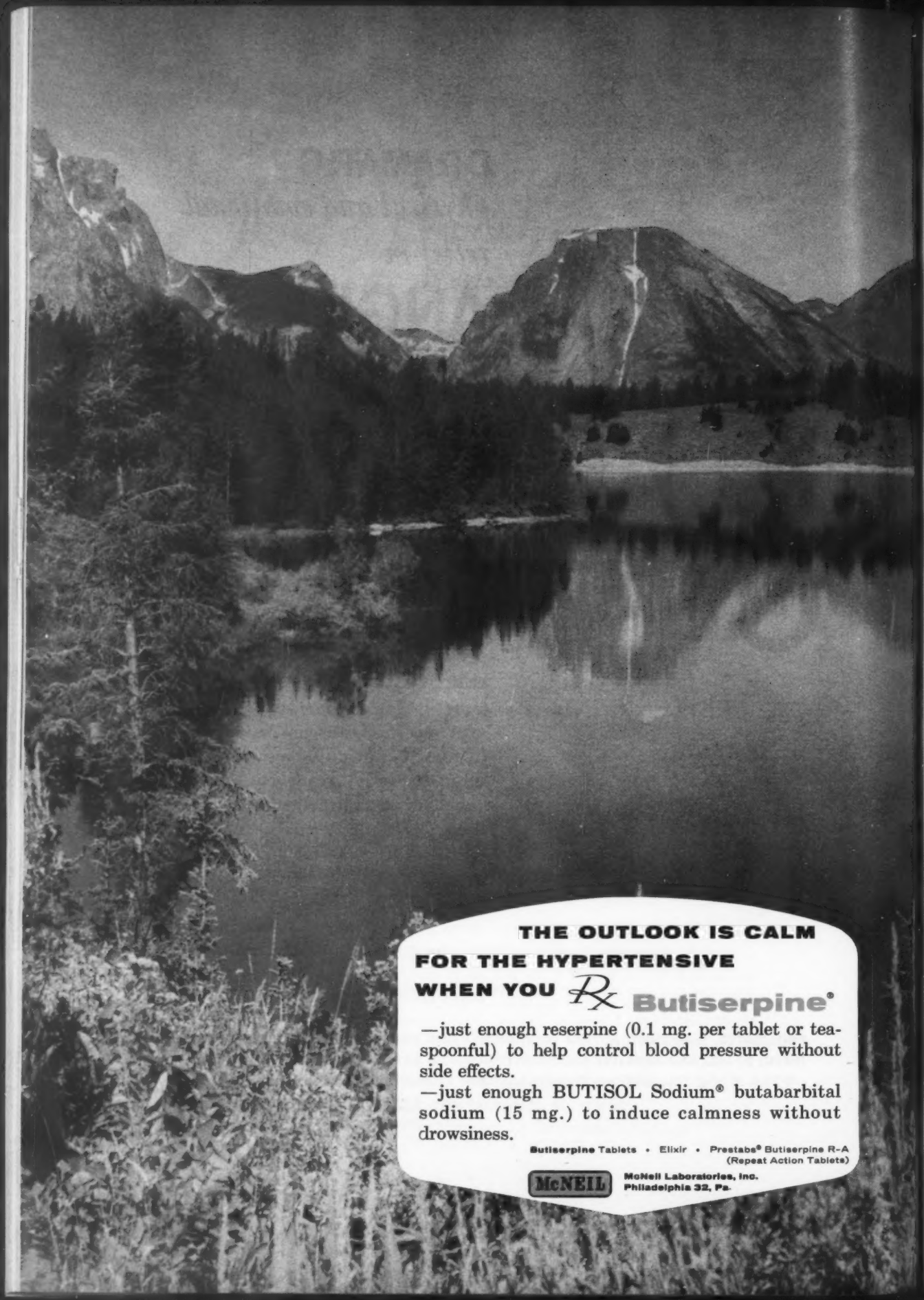
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Minnesota, annual meeting, Lowry Hotel, St. Paul, May 4-6. Secretary, E. R. Komarek, 301 Granite Exchange Bldg., St. Cloud.

National Osteopathic Child Health Conference, Municipal Auditorium, Kansas City, Mo., April 17-19. Executive Secretary, Stan J. Sulkowski, 409 Scarritt Arcade, 819 Walnut St., Kansas City 6.

New Jersey, clinical conference, Cherry Hill Inn, Delaware Township, September 24. Executive Secretary, Mr. R. P. Chapman, 1212 Stuyvesant Ave., Trenton 8.

New Mexico, annual meeting, Milton Hall, New Mexico State University, Las Cruces, April 13-15. Program Chairman, Lory Baker, 400 N. Church St., Las Cruces. Executive Secretary, Mr. L. Thomas Christison, P. O. Box 696, Albuquerque.

North Dakota, annual meeting, Gardner Hotel, Fargo, April 29-30. Program Chairman, Georgianna Pfeiffer, 8 S. Terrace, Fargo.

North Carolina, annual meeting and refresher course, Battery Park Hotel, Asheville, October 26-28. Program Chairman, Joseph H. Huff, Box 1177, Burlington. Secretary, Walter C. Eldrett, 310 S. Main St., Hendersonville.

Ohio, annual meeting, Neil House, Columbus, May 7-10. Program Chairman, Paul J. Keckley, 2637 Sullivant Ave., Columbus 4. Executive Secretary, Mr. William S. Konold, 53 W. Third Ave., Columbus 1.

Ontario, annual meeting, Park Hotel, Niagara Falls, May 1-3. Program Chairman, M. Paul Christianson, 901-02 Pigott Bldg., Hamilton. Secretary, William K. Church, 78 Matchedash St., N., Orvillia.

Oregon, annual meeting, Eugene Hotel, Eugene, June 12-14. Program Chairman, D. B. Bond, 290 E. 15th, Eugene. Secretary, David E. Reid, Box 277, Lebanon.

Osteopathic College of Ophthalmologists and Otorhinolaryngologists, annual meeting, Americana Hotel, Bal Harbour, Fla., September 26-28. Executive Secretary, Arthur A. Martin, Box 222, Kirksville, Mo.

Pennsylvania, annual meeting, Benjamin Franklin Hotel, Philadelphia, May 17-20. **Midyear refresher course,** Hotel Hershey, Hershey. October 13-15. Executive Secretary, Mr. Thomas M. Fogarty, 1941 Market St., Harrisburg.

South Dakota, annual meeting, Lawler Hotel, Mitchell, May 7-8. Secretary, Earl W. Hewlett, 417 W. 27th St., Sioux Falls.

Tennessee, annual meeting, Hotel Patten, Chattanooga, April 30-May 3. Program Chairman, Martin R. Caldwell, Soddy. Secretary, Paul Grayson Smith, Pikeville.

Texas, annual meeting, The Granada Hotel, San Antonio, May 4-6. Program Chairman, Clifford E. Dickey, 4021 E. Belknap, Ft. Worth 11. Executive Secretary, Phil R. Russell, 512 Bailey St., Ft. Worth 7.

Vermont, annual meeting, in the Manchester area, September 27-28. Program Chairman, Mason B. Barney, Box 336, Manchester Center. Clerk, Marian N. Rice, 8 Court St., Windsor.

Virginia, annual meeting, Williamsburg Lodge, Williamsburg, May 25-28. Program Chairman, Harold A. Blood, 228 N. Columbia St., Alexandria. Secretary, Henry S. Liebert, Jr., 3514 Grove Ave., Richmond 21.

West Virginia, annual meeting, Hotel Pritchard, Huntington, May 20-23. Program Chairman, Hoy E. Eakle, Summerville. Executive Secretary, Mr. Gilbert D. Brooks, 313 Berman Bldg., Charleston 1.

Wisconsin, annual meeting, Cerami's Resort, Burlington, May 21-23. Program Chairman, James W. Stout, Stout Clinic, 322 Vine St., Hudson. Executive Secretary, Mr. Wayne A. Reif, 132 W. Mount Royal Rd., Milwaukee 17.

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[1]Brusch, C.A., et al.: Md. State Med. J.; 5:36, 1956.

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Riboflavin (B_2)	2 mg.
Nicotinamide	20 mg.
Pyridoxine Hydrochloride	0.5 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid (C)	50 mg.
Iron (as sulfate)	10 mg.
Copper (as sulfate)	0.15 mg.
Iodine (as calcium iodate)	0.1 mg.
Manganese (as sulfate)	0.05 mg.
Magnesium (as oxide)	0.15 mg.
Calcium (as phosphate)	250 mg.
Phosphorus (as calcium phosphate)	193 mg.

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Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	2 mg.
Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	5 mg.
Ascorbic Acid	100 mg.

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DAYALETS-M® Each Filmtab represents all the vitamins of Dayalets plus the following:

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Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
Molybdenum (as sodium molybdate)	0.2 mg.

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Nicotinamide	100 mg.
Pyridoxine Hydrochloride	5 mg.
Cobalamin (Vitamin B_{12})	6 mcg.
Calcium Pantothenate	20 mg.
Ascorbic Acid	200 mg.

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Copper (as sulfate)	1 mg.
Iodine (as calcium iodate)	0.15 mg.
Cobalt (as sulfate)	0.1 mg.
Manganese (as sulfate)	1 mg.
Magnesium (as oxide)	5 mg.
Zinc (as sulfate)	1.5 mg.
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SUR-BEX® WITH C Therapeutic B-complex with C, for convalescence, stress, post-surgery.

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Thiamine Mononitrate	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
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Cobalamin (Vitamin B_{12})	2 mcg.
Calcium Pantothenate	10 mg.
Ascorbic Acid	150 mg.
Desiccated Liver, N.F.	150 mg.
Liver Fraction 2, N.F.	150 mg.
Brewer's Yeast Dried	150 mg.

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State and national boards

Alabama basic science examinations May 30-31. Address Mrs. Maxine F. McCool, secretary, State Board of Examiners in the Basic Sciences, 1919 7th Ave., So., Birmingham 3.

Arizona Those interested in professional examinations should contact Russell Peterson, D.O., secretary, Osteopathic Board of Registration and Examination in Medicine and Surgery, 2747 E. McDowell Rd., Phoenix 22.

Basic science examinations March 21 at the University of Arizona, Tucson. Address Millard G. Seeley, Ph.D., secretary-treasurer, Board of Examiners in the Basic Sciences, University of Arizona, Tucson.

Arkansas basic science examinations April 20-21. Address Mr. A. W. Ford, Commissioner, Department of Education, Little Rock.

Colorado examinations in June. Address Miss Mary M. McConnell, executive secretary, State Board of Medical Examiners, 715 Republic Bldg., Denver 2.

Basic science examinations in May. Address Esther B. Starks, D.O., secretary, Basic Science Board, 1459 Ogden St., Denver 18.

Connecticut basic science examinations June 10. Address Miss M. G. Reynolds, executive assistant, State Board of Healing Arts, 110 Whitney Ave., New Haven 10.

District of Columbia examinations June 12-13. Address Mr. Paul Foley, deputy director, Department of Occupations and Professions, 1740 Massachusetts Ave., N. W., Washington 6. D. C.

Basic science examinations in April. Address Mr. Foley.

Florida examinations in June. Address Thomas F. Sheffer, D.O., secretary, Board of Osteopathic Examiners, Las Olas Hospital, 1516 E. Las Olas Blvd., Ft. Lauderdale.

Hawaii For information on examination dates write to Richard Y. Kodama, D.O., secretary, Board of Osteopathic Examiners, 826 Keeaumoku St., Honolulu 14.

Idaho examinations June 8. Address Mrs. Nan K. Wood, director, Occupational License Bureau, Department of Law Enforcement, State House, Boise.

Illinois examinations in April. Applications must be filed by the middle of March. Address Mr. Frederic B. Selcke, superintendent, Department of Registration and Education, Capitol Bldg., Springfield.

Indiana examinations in June. Address Miss Ruth V. Kirk, executive secretary, Board of Medical Registration and Examination, 538 Knights of Pythias Bldg., Indianapolis 4.

Iowa examinations in May. Applications must be filed 15 days prior to examination. Address Mr. Herman W. Walter, assistant secretary, Board of Osteopathic Examiners, 519-20 Insurance Exchange Bldg., Des Moines.

Basic science examinations April 11 at the Capitol Building, Des Moines. Address Elmer W. Hertel, Ph.D., secretary, Board of Basic Science Examiners, Wartburg College, Waverly.

Kansas examinations during first 2 weeks in June. Address Francis J. Nash, M.D., secretary, State Board of Healing Arts, New Brotherhood Bldg., Kansas City, Kans.

Kentucky examinations in June.

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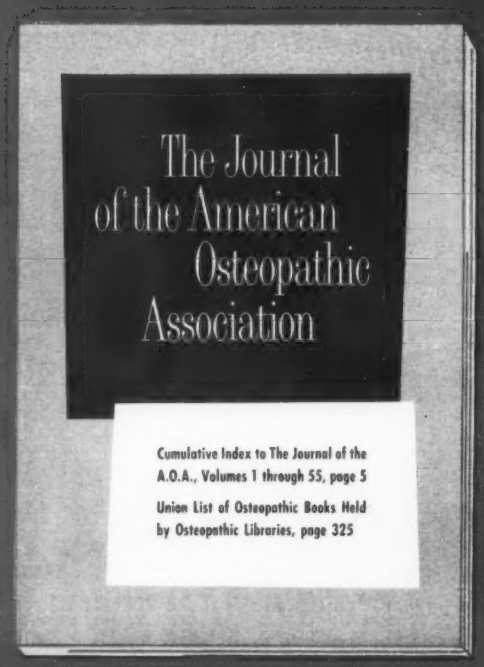
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Decreases hypermotility of stomach and bowel.[3-7]

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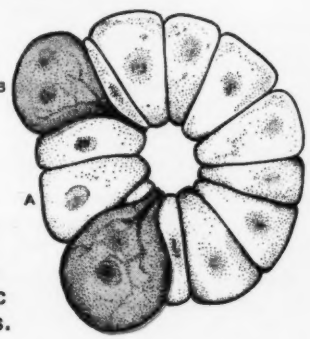

Typical gastric secretory gland.
A—chief cell (pepsin-producing).
B—parietal cell (acid-producing).
NACTON effectively inhibits gastric acid production by the parietal cells.

References:
1. Douthwaite, A. H., and Hunt, J. N.: Effect of "Nacton" in Patients with Duodenal Ulcer, Brit. Med.J. *1*:1030-1034 (May 3) 1958. 2. Douthwaite, A. H.: The Development of the Treatment of Duodenal Ulcer, Proc. Roy. Soc. Med. *51*:1063-1068 (Dec.) 1958. 3. Steigmann, F.: The Problems of Side Effects in Anticholinergic Therapy, to be published. 4. Grossman, M. I., and Tuttle, S. G.: Clinical Report to McNeil Laboratories. 5. Texter, E. C.: Clinical Report to McNeil Laboratories. 6. Cayer, D., and co-workers: Clinical Report to McNeil Laboratories. 7. Lorber, S. H.: Clinical Report to McNeil Laboratories. 8. Walker, G. F.: Therapeutics; Gastric Sedatives, Brit. J. Clin. Pract. *13*:362 (May) 1959. 9. Douthwaite, A. H., Hunt, J. N., and MacDonald, I.: A Long-Acting Inhibitor of Gastric Secretion, Brit. Med. J. *2*:275-276 (Aug. 3) 1957.

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In relief of pain associated with dysmenorrhea, premenstrual tension headache and postpartum pain, "*an effective, convenient agent . . . not limited by the precautions necessary when administering narcotics.*"[1]

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75 patients placed on Analexin 200 mg. tablets.
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50 patients placed on Analexin 200 mg. tablets.

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100 patients placed on a combination of Analexin, 200 mg., and aspirin, 325 mg.

100 patients placed on codeine sulfate, 32.5 mg., and aspirin, 650 mg.

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Analexin-AF® *for relief of postpartum pain or pain conditions complicated by inflammation and/or fever.*
Each tablet contains phenyramidol HCl, 100 mg.; and aluminum aspirin, 300 mg.
DOSAGE: 2 tablets every 4 hours or as required.

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1. Wainer, A. S.: Clin. Med. 7:2331, 1960.

Address Mrs. Ray Wunderlich, director, Medical Licensure and Registration, State Board of Health, 275 E. Main St., Frankfort.

Maine examinations June 13-14. Address George Frederick Noel, D.O., secretary, Board of Osteopathic Examination and Registration, 20 Monument Sq., Dover-Foxcroft.

Maryland examinations in June. Address Christopher L. Ginn, D.O., secretary, Board of Osteopathic Examiners, 19 W. Mulberry St., Baltimore 1.

Michigan basic science examinations in May. Address Mrs. Anne Baker, secretary, State Board of Examiners in the Basic Sciences, 116 Mason Bldg., Lansing.

Minnesota basic science examinations April 4 at the University of Minnesota, Minneapolis. Address Raymond N. Bieter, M.D., secretary-treasurer, Board of Examiners in the Basic Sciences, 105 Millard Hall, University of Minnesota, Minneapolis 14.

Mississippi examinations in June. Address R. N. Whitfield, M.D., assistant secretary, Board of Health, Jackson 5.

Missouri examinations in May. Address Mr. John A. Hailey, executive secretary, Board of Registration for the Healing Arts, P. O. Box 4, Jefferson City.

Nebraska basic science examinations May 2-3. Address Mr. R. K. Kirkman, director, Bureau of Examining Boards, Department of Health, State Capitol Bldg., Lincoln 9.

Nevada examinations in June. Address John H. Pasek, D.O., secretary, Board of Osteopathic Examiners, 205-10 First National Bank Bldg., Minden.

Basic science examinations April 4. Address Kenneth C. Kemp, Ph.D., secretary, Board of Examiners in the Basic Sciences, Box 9355, University of Nevada, Reno.

New Mexico examinations June 15. Address L. D. Barbour, D.O., secretary, Board of Osteopathic Examination and Registration, Box 710, Roswell.

Basic science examinations April 16. Address Mrs. Marguerite Cantrell, secretary, Board of Examiners in the Basic Sciences, Box 1522, Santa Fe.

New York examinations in June. Address Dr. John W. Paige, chief, Bureau of Professional Examinations and Registrations, 23 S. Pearl St., Albany.

Ohio examinations in June. Applications must be filed 2 weeks prior to examinations. Address H. M. Platter, M.D., secretary, State Medical Board, 21 W. Broad St., Columbus 15.

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Rhode Island examinations April 7-8. Address Mr. Thomas B. Casey, Administrator of Professional Regulation, 366 State Office Bldg., Providence.

Basic science examinations May 10. Address Mr. Casey.

South Carolina examinations June 20. Address Ernest A. Johnson, D.O., secretary, Board of Osteopathic Examiners, Box 525, Summerville.

South Dakota basic science examinations first week in June. Applications must be filed 2 weeks prior to examinations. Address Gregg M. Evans, Ph.D., secretary, Basic Science Board, Box 506, Yankton.

Tennessee basic science examinations given every 3 months. Address O. W. Hyman, M.D., secretary, Board of Basic Science Examiners, 62 S. Dunlap, Memphis 3.

Texas examinations June 12-14, Texas Hotel, Fort Worth. Applications must be filed 30 days in advance. Applications for reciprocity will also be considered and must be filed 60 days in advance. Address H. M. Crabb, M.D., secretary, Board of Medical Examiners, 1714 Medical Arts Bldg., Fort Worth 2.

Basic science examinations April 14-15 at Austin, Galveston, Houston, and Dallas. Applications must be filed by April 1. Address Mrs. Maria P. Hathaway,

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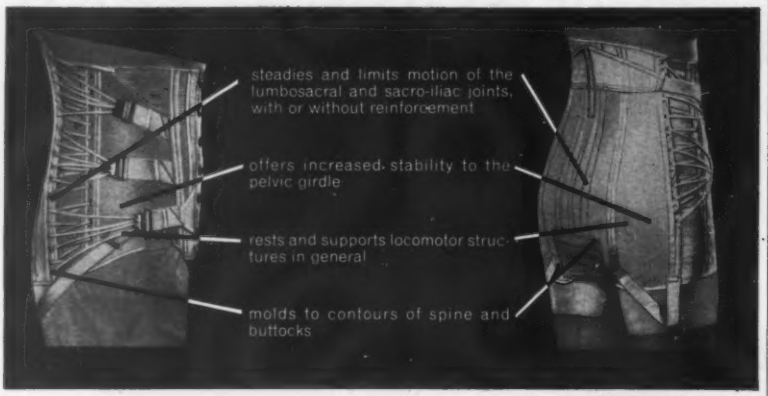
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secretary, Board of Examiners in the Basic Sciences, Room 1012, State Office Bldg., 201 E. 14th St., Austin.

Utah examinations third week in June. Applications must be filed 10 days in advance. Address Mr. Frank E. Lees, director, Registration Division, Department of Business Regulation, State Capitol, Salt Lake City 14.

Vermont examinations in June. Address Charles D. Beale, D.O., secretary, State Board of Osteopathic Examination and Registration, Mead Bldg., Rutland.

Virginia examinations in June. Address Russell Cox, M.D., secretary, Board of Medical Examiners, 505 Washington St., Portsmouth.

West Virginia examinations in June. Address Donald C. Newell, D.O., secretary, Board of Osteopathy, 137½ Main St., Oak Hill.

Wisconsin examinations in April at Madison. Applications must be filed 2 weeks prior to examinations. Address Thomas W. Tormey, Jr., M.D., secretary, State Board of Medical Examiners, Room 28, 115 So. Pinckney St., Madison 2.

Basic science examinations April 8, Room 145, Birge Hall, University of Wisconsin, Madison. Applications must be filed by March 30. Address W. H. Barber, D.Sc., secretary, Board of Examiners in the Basic Sciences, 621 Ransom St., Ripon.

British Columbia examination in June. Applications must be filed 90 days prior to examinations. Address Lynn Gunn, M.D., registrar, Council of College of Physicians and Surgeons, 1807 W. 10th Ave., Vancouver 9.

Ontario examinations in June. Address D. Gordon Campbell, D.O., secretary, Board of Directors of Osteopathy, 2 Bloor St., E., Toronto 2.

Saskatchewan professional and basic science examinations at Saskatoon in June. Address Anna Northup-Little, D.O., 2228 Albert St., Regina.

Examination by National Board

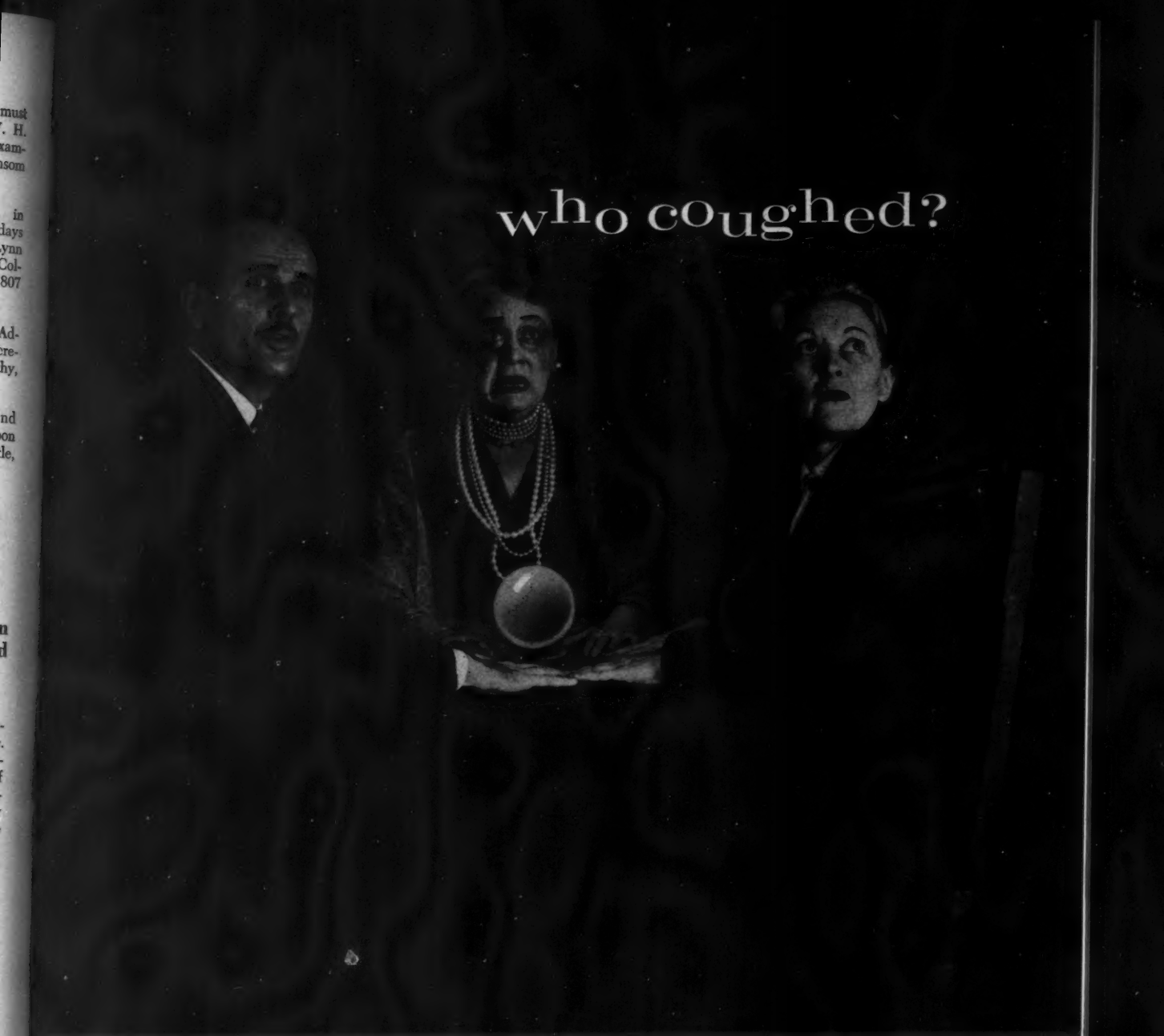
The National Board of Examiners for Osteopathic Physicians and Surgeons, Inc. conducts Parts I and II of its examinations on the first Thursday and Friday of each May and December at the six approved colleges. Application blanks may be obtained from the secretary of the Board or the dean of the college, and the completed application blank, together with check for the part to be taken, must be in the secretary's office by the November 1 or April 1 preceding the examination.

Examinations in Part I consist of anatomy, including histology and embryology; physiology; physiological chemistry; general pathology; and bacteriology, including parasitology and immunology.

Part II consists of examinations in surgery, including applied anatomy, surgical pathology, and surgical specialties, neurology and psychiatry; public health, including hygiene; medical jurisprudence; obstetrics and gynecology; pediatrics; osteopathic principles, therapeutics, including pharmacology and materia media.

Part III is an oral and practical examination given under the supervision of a chief examiner who is a member of the Board and by a panel of associate examiners. Subjects covered in Part III are: anatomy; physiology; pathology; osteopathic principles, therapeutics and pharmacology; surgery; ophthalmology and otorhinolaryngology; obstetrics and gynecology; physical and clinical diagnosis; public health and communicable diseases.

These are oral examinations which the candidate may take after having satisfactorily completed the first six months of a



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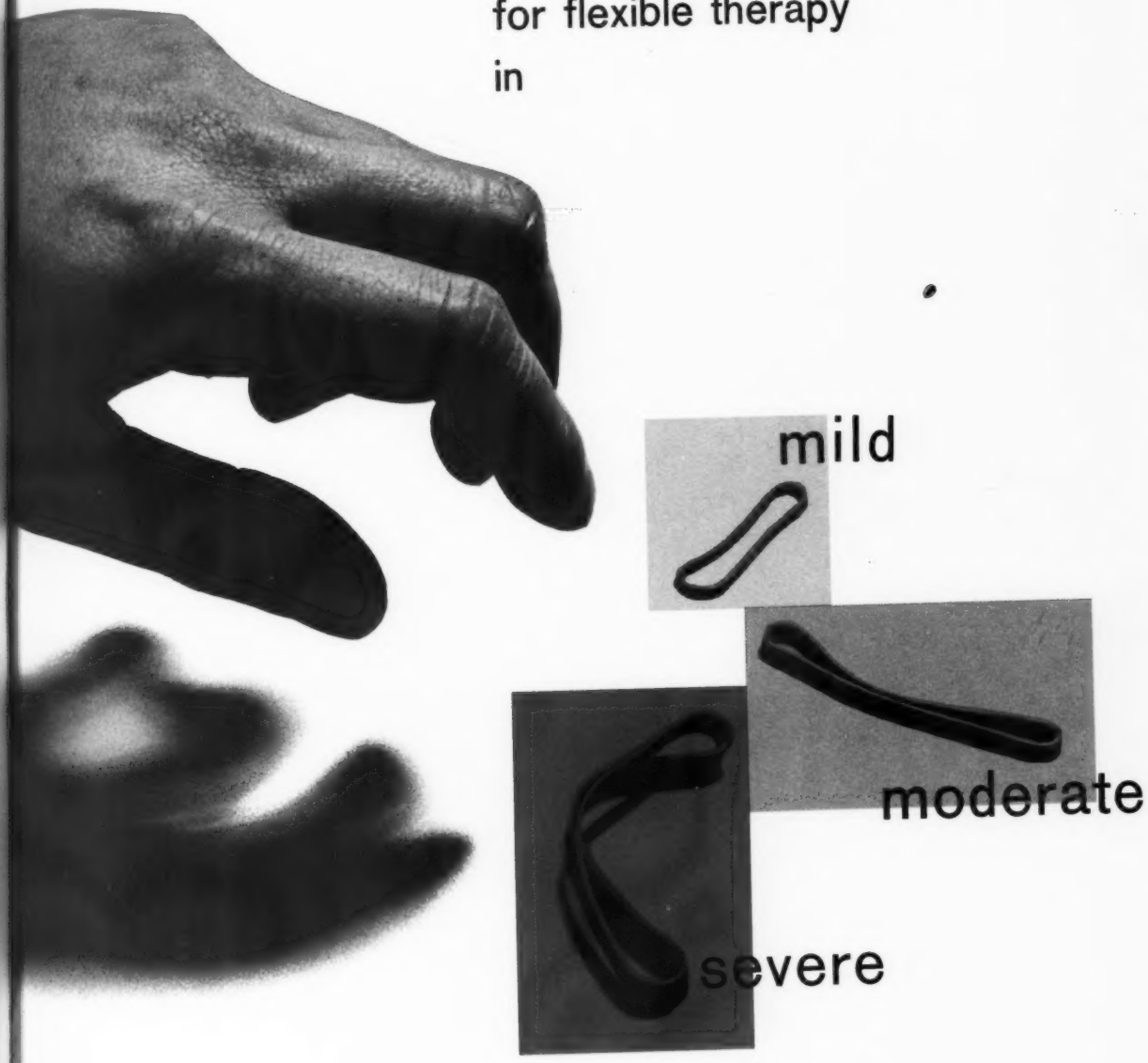

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emotional disturbances**

anxiety and tension

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EQUANIL *is indicated for patients displaying mild to moderate emotional and physical difficulties, which are expressed as:*

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- muscle spasm, as in musculoskeletal disorders such as rheumatic conditions

EQUANIL does not produce extrapyramidal symptoms or ataxia. Drowsiness occurs but occasionally; allergic reactions are rare. Mental or physical acuity is not significantly affected.

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EQUANIL has been proved effective as a skeletal muscle relaxant and in the *management of anxiety and tension* occurring either alone or as an accompanying symptom complex to medical disorders. Although not a hypnotic, EQUANIL fosters normal sleep through both its antianxiety and muscle-relaxant properties.

EQUANIL is beneficial in relieving anxiety and emotional stress in the psychosomatic disorders—allergy, dermatoses, cardiovascular and hypertensive disease, gastrointestinal disorders, and tension headache.

Directions: *Initial and usual adult dose* of EQUANIL is 400 mg., given 3 or 4 times daily. This will usually be sufficient in the management of simple anxiety and tension or, adjunctively, in anxiety and tension complicating medical disorders and surgical procedures. Doses above 2400 mg. daily are not recommended, even though higher doses have been used by some investigators. Elderly patients usually tolerate EQUANIL well.

In children 3 years of age and older, the initial dosage is 100 to 200 mg. 2 or 3 times a day. Dosage may be increased as necessary, daily dosages of 2.4 Gm. being well tolerated by older children. Infants with cerebral palsy have been given EQUANIL from 3 months of age in daily doses of 125 to 400 mg.

Important: Careful supervision of dose and amount prescribed is advised, especially for patients with a known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons (alcoholics, former addicts, and other severe psychoneurotics) has been reported to result in dependence on the drug. Where excessive dosage has been continued for weeks or months, dosage should be reduced gradually rather than abruptly, since withdrawal of a "crutch" may precipitate withdrawal reactions of greater proportions than those for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has occasionally resulted in epileptiform seizures.

Precautions: Serious side effects have rarely been encountered following the administration of EQUANIL. Drowsiness may occur, particularly early in the course of EQUANIL therapy, but, as a rule, disappears as therapy is continued. Should drowsiness persist, it can usually be controlled by decreasing the dose; occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate (WYAMINE® Sulfate, Wyeth), concomitantly with EQUANIL.

The only serious side effects reported to attend use of meprobamate are rarely encountered allergic reactions. Such response is developed, as a rule, in patients who have had only 1 to 4 doses of meprobamate and have not had previous contact with the drug. Previous history of allergy does not appear to be related to the incidence of reactions.

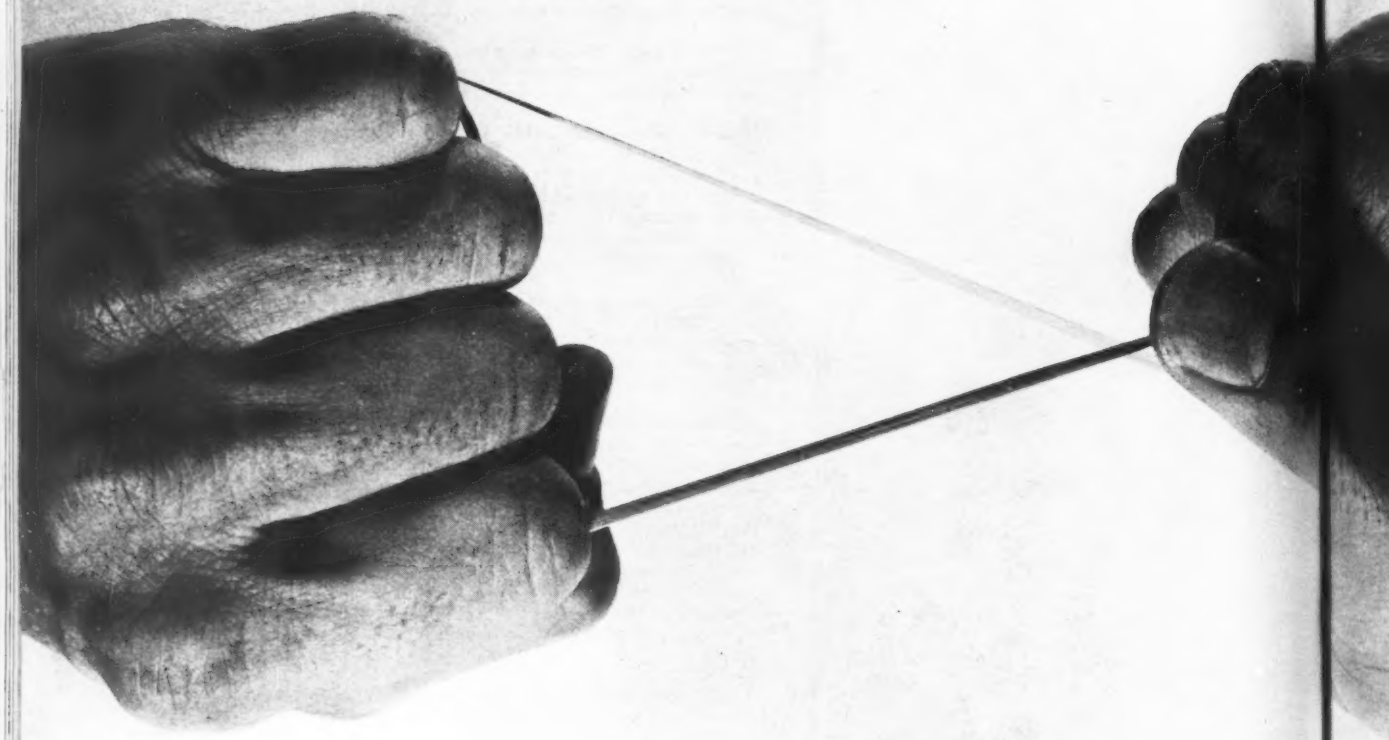
Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash, which may be generalized or confined to the groins. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have also been reported.

More severe cases, observed only very rarely, may also have fever, fainting spells, angioneurotic edema and bronchial spasms. Treatment consists of the administration of epinephrine, antihistamine and, possibly, hydrocortisone. EQUANIL should be stopped and reinstitution of therapy should not be attempted.

For further information on prescribing and administering EQUANIL, *see descriptive literature, available on request.*

Wyeth Laboratories Philadelphia 1, Pa.

midrange emotional problems



For the physician in everyday practice, PROZINE often aids the management of moderate to *moderately severe emotional problems resulting in anxiety expressed as:*

- somatic disorders such as headache, vertigo, nausea and vomiting, muscle spasm, insomnia
- secondary reactions to acute or chronic organic disease
- moderate to severe psychoneuroses
- abnormal behavior in children, adolescents, and agitated senile patients
- mild psychoses

PROZINE reduces motor excitability as well as apprehension, agitation, anxiety and tension.

PROZINE

Detailed Information on

PROZINE®

Meprobamate and Promazine Hydrochloride, Wyeth

PROZINE is indicated in the management of moderate to moderately severe emotional problems, resulting in anxiety, expressed as: *somatic disorders* (headache, vertigo, muscle spasm, insomnia, nausea and vomiting); *secondary reactions* to acute or chronic organic disease; *moderate to severe psychoneuroses; abnormal behavior* in children, adolescents, agitated senile patients; and *mild psychoses*. The dose required for the patient suffering midrange emotional problems is sufficiently low so that the incidence of side effects and toxicity reactions is minimal.

Directions: The usual dosage is 1 or 2 capsules, 3 or 4 times daily. For nighttime sedation, 2 capsules. If drowsiness is troublesome in the first 72 hours of treatment, a reduction of dosage to 1 capsule, 2 or 3 times a day may be indicated. Promazine enhances analgesics and central nervous system depressants, and such agents, when required, should be given in reduced doses.

Precautions: The incidence of agranulocytosis with promazine is less than 0.001%, and usually has been observed only in patients who have taken high doses of promazine for prolonged periods. However, symptoms of fever and sore throat should be reported and diagnosis confirmed by white blood cell count and differential smears. Intermittent hematological examinations should be made on all patients taking PROZINE for prolonged periods. Excessive and prolonged use of meprobamate in susceptible persons (alcoholics, former addicts, and other severe psychoneurotics) has been reported to result in dependence on the drug. In such cases, reduce dosage gradually to avoid withdrawal reactions and possible epileptiform seizures. Gross overdosage of PROZINE may result in hypotension. When a sympathomimetic agent is indicated, norepinephrine is recommended, since promazine reverses the effect of epinephrine. In cases of allergic reactions, PROZINE should be discontinued. It has been reported that patients may develop hepatic dysfunction when taking promazine if chlorpromazine had previously been given. This reaction may occur even though not evident during chlorpromazine therapy. Seizures, reported as occurring during promazine therapy, occur usually only with rapid large increases in dose to levels greater than 1 Gm. daily, or when the patient has a history of epilepsy inadequately controlled with anticonvulsant therapy.

Contraindications: Do not use PROZINE in comatose states caused by alcohol, barbiturates, opiates, etc., or when a drop in blood pressure is undesirable.

For further information on prescribing and administering PROZINE, *see descriptive literature, available on request.*

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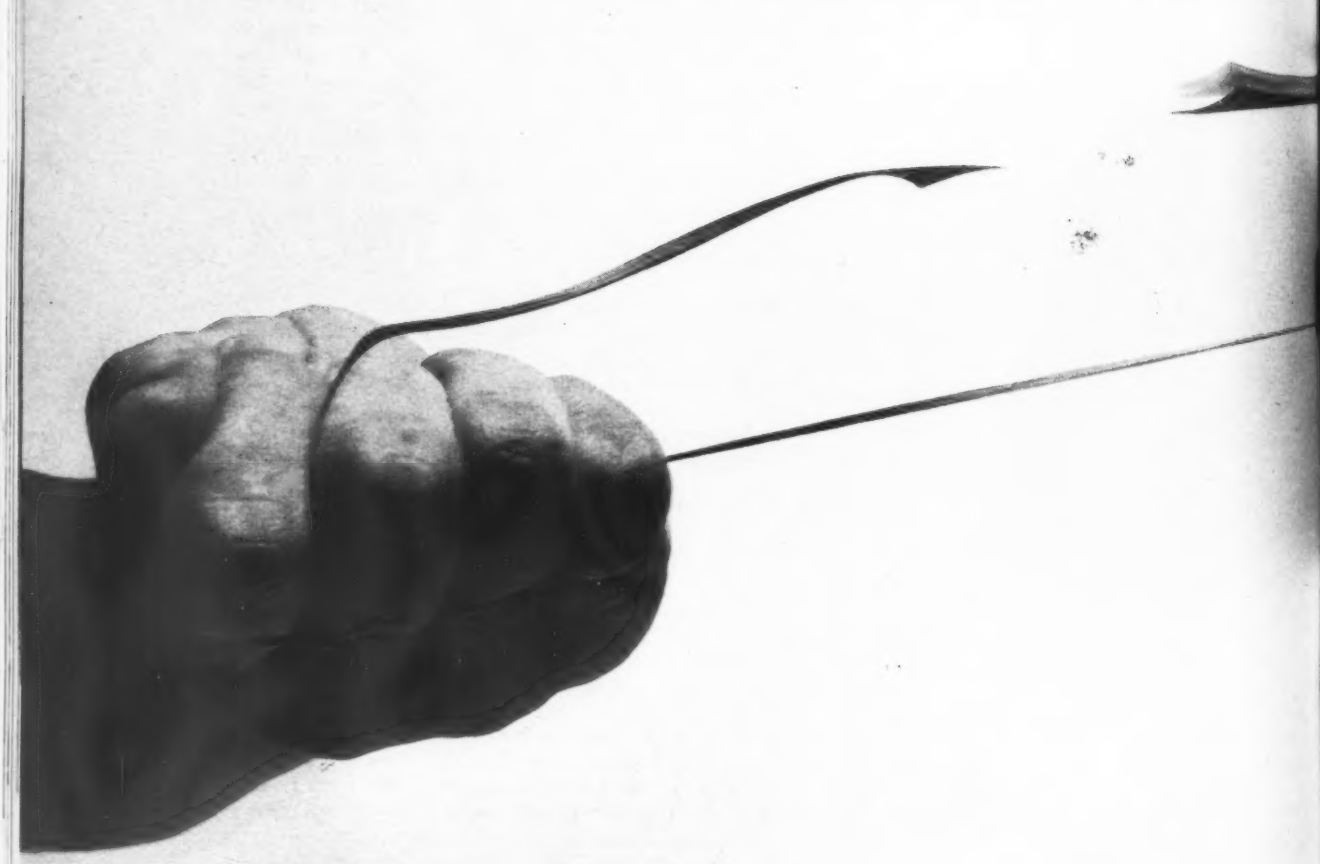
Wyeth ® SERVICE TO MEDICINE

acute agitation



SPARINE quickly controls acute manifestations of severe mental and emotional disturbances; aids in maintenance thereafter. One of the most versatile agents at your disposal.

- controls central nervous system excitation, allays apprehension, calms agitation
- helps manage delirium tremens, acute hallucinosis, acute tremulousness and inebriation
- ameliorates withdrawal symptoms of drug addiction
- controls nausea and vomiting; useful in management of pain by enhancing analgesics
- facilitates diagnosis and therapy in medical emergencies by allaying severe agitation and apprehension

The most rapid control is obtained by the intramuscular or intravenous route; maintenance is usually by tablets or syrup.

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TABLETS
SYRUP

Sparine

HYDROCHLORIDE

Detailed Information on

SPARINE®

HYDROCHLORIDE

Promazine Hydrochloride, Wyeth

SPARINE effectively controls central nervous system excitation, allays apprehension and anxiety, calms the agitated patient and is a useful adjunct to the management of mental and emotional disturbances. It is effective in the management of alcohol-induced syndromes (delirium tremens, acute hallucinosis, acute tremulousness, inebriation) as well as the withdrawal symptoms of drug addiction. Both acute and chronic psychiatric illnesses respond to SPARINE therapy. SPARINE has been found to be useful in the management of nausea and vomiting of either central nervous system or gastric reflex origin. SPARINE effectively facilitates the action of analgesics and central nervous system depressants. It has been used as an adjunct to surgical sedation, allaying apprehension and reducing the dosage requirements for narcotics, analgesics and sedatives. SPARINE may be used as an aid in diagnostic and therapeutic regimens. Such nonspecific symptoms as anxiety, pain, vomiting, nausea and hiccups frequently make more difficult both diagnosis and therapy of organic disease. SPARINE allays such symptoms without masking physical, neurological or laboratory findings.

Directions: For maximal therapeutic benefit the amount, route of administration and frequency of dose should be governed by the severity of the condition treated and the response of the patient. Oral administration should be used whenever possible; parenteral administration should be reserved for uncooperative patients or when nausea and vomiting interfere with oral administration. SPARINE *when used intravenously should not exceed a concentration of 25 mg. per cc.: injection should be given slowly.* Dilute 50 mg. per cc. concentration with equivalent volume of physiological saline before I.V. use. Avoid injection around or into the wall of the vein. Inject only into vessels previously undamaged by multiple injections or trauma.

In the management of acutely agitated patients, SPARINE should be given I.V. in initial doses of 50 to 150 mg. If the desired calming effect is not apparent within 5 to 10 minutes, additional doses up to a total of 300 mg. may be given. (*In the acutely inebriated patient, the initial dose should not exceed 50 mg.*) Once the desired effect is obtained, SPARINE may then be given I.M. or orally in maintenance doses of 10 to 200 mg. at four to six hour intervals. *In less severe disturbances,* initial oral therapy may be satisfactory. When tablet medication is unsuitable or refused, SPARINE Syrup may be used.

As an antiemetic, usual dose is 25 to 50 mg. repeated at four to six hour intervals. When oral route is not feasible, 50 mg. I.V. or I.M. will usually control the symptom, but oral medication should be initiated as soon as feasible. *In medical emergencies,* to allay apprehension and facilitate diagnosis or therapy, SPARINE should be given I.V., I.M. or orally in 50 to 200 mg. doses. See direction circular for details. *In the management of pain associated with malignancy or chronic disease,* SPARINE may be administered orally or I.M. in 25 to 50 mg. doses repeated at four to six hour intervals to allow for reduced dosage of analgesics.

Precautions: Although rare, drowsiness, dizziness and transitory postural hypotension may occur. If a vasopressor drug is indicated, norepinephrine is recommended, since SPARINE reverses the effect of epinephrine. Agranulocytosis has been reported in only 18 cases in about 3½ million patients. If, however, signs of cellular depression—sore throat, fever, malaise—become evident, discontinue SPARINE, check white blood cell count, and initiate antibiotic and other suitable therapy if indicated. Seizures, reported as occurring during SPARINE therapy, occur usually with rapid large increases in dose and at a daily dosage above 1 Gm. Caution must be exercised when administering SPARINE to patients with a history of epilepsy. There are reports in the literature indicating that patients may develop jaundice and/or liver dysfunction when taking promazine if they have previously taken chlorpromazine even though they did not show jaundice during chlorpromazine therapy. Avoid perivascular extravasation or intra-arterial injection, as severe chemical irritation or inflammatory response may result.

Because of its enhancing action on analgesics and central nervous system depressants, give them only in reduced dosage with SPARINE. Do not use in comatose states due to central nervous system depressants (alcohol, barbiturates, opiates, etc.). Use with caution in patients with cerebral arteriosclerosis, coronary heart disease, or other conditions where a drop in blood pressure may be undesirable. *For further information on prescribing and administering* SPARINE, *see descriptive literature, available on request.*

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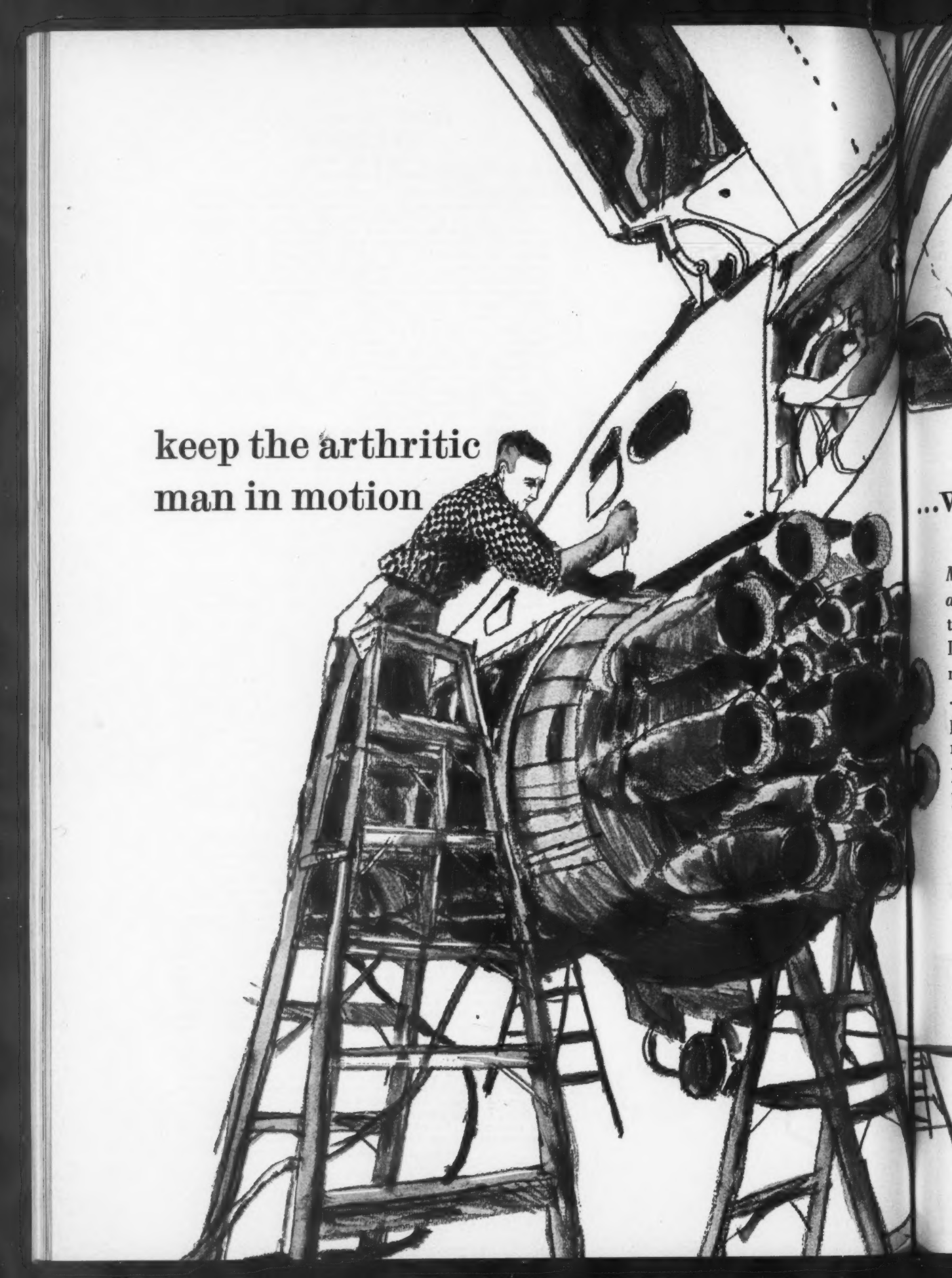
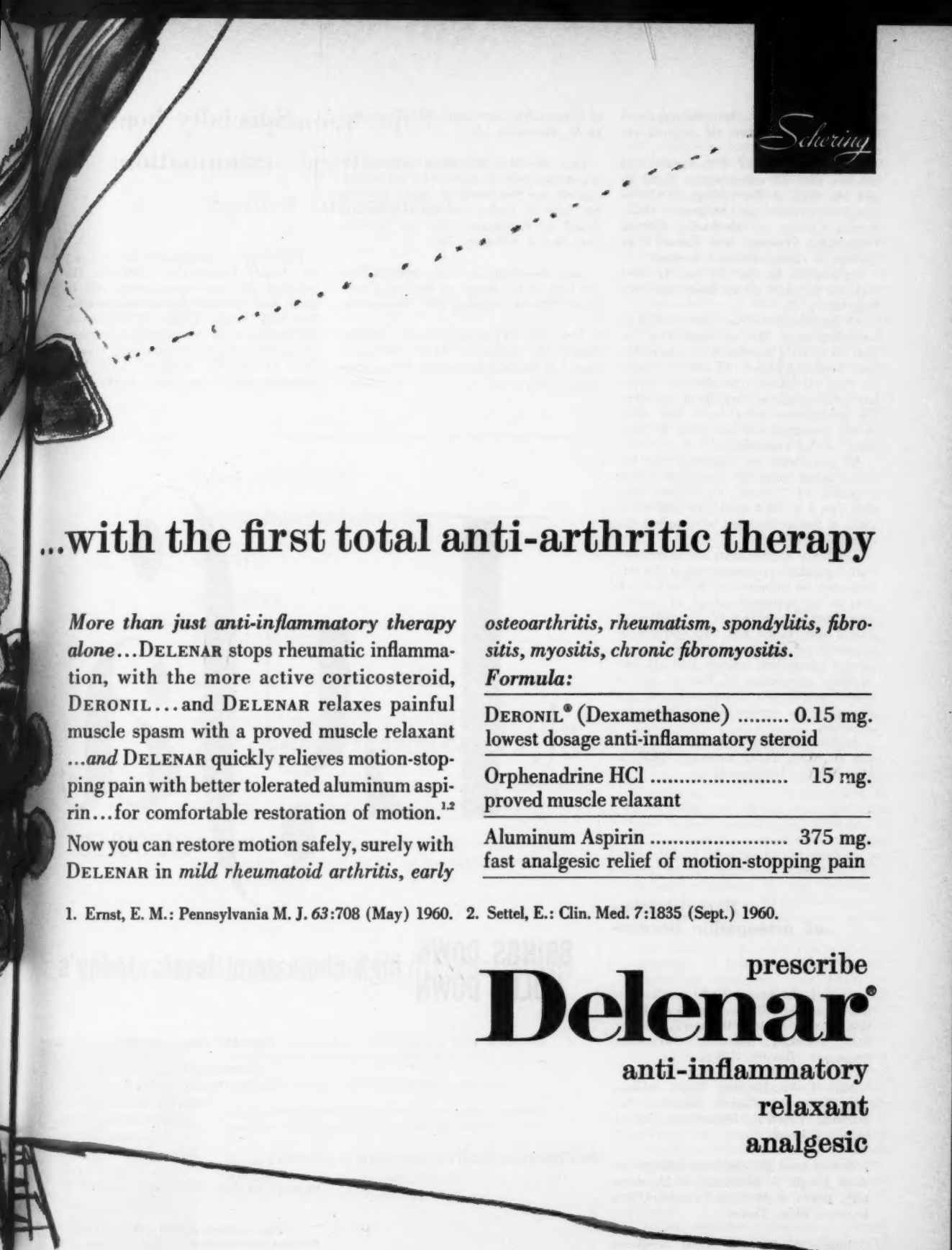

keep the arthritic
man in motion



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1. Ernst, E. M.: Pennsylvania M. J. *63*:708 (May) 1960. 2. Settel, E.: Clin. Med. *7*:1835 (Sept.) 1960.

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1-year internship in a hospital approved for intern training. Part III is given annually.

The National Board of Examiners will conduct Part III examinations April 15 and 16, 1961, at the College of Osteopathic Physicians and Surgeons, Philadelphia College of Osteopathy, Detroit Osteopathic Hospital, and Kansas City College of Osteopathy and Surgery.

Applications for Part III must be filed with the secretary of the Board not later than March 15.

All candidates who are now serving an internship may file an application for Part III when 6 months of the internship have been completed. All others eligible for Part III whose internship of 1 year has been completed may file at any time. All applications must reach the office of the secretary not less than 30 days prior to the examination.

All candidates are reminded that the examinations must be completed within a period of 7 years. Candidates who took Part I in 1954 must take Part III in 1961 or forfeit the right to complete the examinations.

Eligibility requirements are as follows: Part I, satisfactory completion of the first 2 quarters or trimesters of the sophomore year in an approved school of osteopathy; Part II, satisfactory completion of Part I and of the first two quarters or trimesters of the senior year in an approved osteopathic college; Part III, satisfactory completion of Part II and at least 6 months of a 1-year internship approved by the American Osteopathic Association.

Address all communications to Paul van B. Allen, D.O., secretary, 4425 N. Meridian St., Indianapolis 8.

Reregistration of osteopathic licences

April 1—Montana, $2.00 residents in active practice; $1.00 nonresidents in active practice. Address Warren E. Monger, D.O., secretary, Board of Osteopathic Examiners, Box 64, Dillon.

May 1—Washington, $2.00. Address Mr. Thomas A. Carter, secretary, Professional Division, Department of Licenses, Olympia.

Before June 30—Delaware $20.00. Address Joseph S. McDaniel, M.D., secretary, Board of Medical Examiners, Professional Bldg., Dover.

June 30—Hawaii, $5.00 residents; $2.00 nonresidents. Address Richard Y. Kodama, D.O., secretary-treasurer, Board of Osteopathic Examiners, 826 Keeaumoku St., Honolulu 14.

June 30—Missouri, $2.50. Notices for registration will be sent to the last known address the first week of June. Address Mr. John A. Hailey, executive secretary, Board of Registration for the Healing Arts, Box 4, Jefferson City.

June 30—Virginia, $1.00. Address Russell Cox, M.D., Board of Medical Examiners, 505 Washington St., Portsmouth.

June 30—Wyoming, $2.50. Address James W. Sampson, M.D., secretary, Board of Medical Examiners, State Office Bldg., Cheyenne.

Specialty board examinations

Pathology examinations May 4-5 at Detroit Osteopathic Hospital. The practical and oral examinations will be given May 4, while the written examination will be given May 5. Address O. Edwin Owen, D.O., secretary, American Osteopathic Board of Pathology, Youngstown Osteopathic Hospital, 1319 Florencedale Ave., Youngstown 4, Ohio.

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Chemotherapy, a public health measure against tuberculosis

*Edward T. Blomquist, M.D.**

The present status and future of tuberculosis control in this country was considered at the Arden House Conference on Tuberculosis held November 29-December 2, 1959. All of us closely involved felt at the time that it was an important conference, and the attention and consideration it has attracted offer proof that we were right. Many ideas and proposals have resulted from this conference, and there has been time for them to be examined critically. The ones that have survived are not revolutionary; they are practical, however, and this means a good deal.

Reprinted from *Public Health Reports*, November 1960.

*Dr. Blomquist is chief, Tuberculosis Branch, Division of Special Health Services, Public Health Service.

The following thoughts have grown from many conversations, discussions, and even arguments on how the major recommendation of the Arden House Conference can be translated into action. I felt obligated to summarize my ideas this way since time is important. It seems to me imperative that suggestions on practical steps for carrying out the Arden House recommendations be advanced quickly, and to all interested in this field. If all of us concerned with tuberculosis in this country do not act quickly, a real opportunity will be lost. We must make the Arden House Conference produce something more than words and justify the interest and enthusiasm it has engendered.

THE PRESENT SITUATION

Since chemotherapy came into use, the death rate from tuberculosis has gone down sharply. Although the case rate has also been moving downward, it has apparently been affected less by the new drugs. The relatively slow decline of case rates can be accounted for in part by the large proportion of tuberculosis cases in the United States that result from the breakdown of old infections. At the present time no measure is available to prevent most of these, but more adequate treatment of all cases that do occur could prevent the cases that arise from recent exposure. In addition, it could prevent the new infections in those who would become the tuberculosis patients of the future or subjects for prophylactic treatment, if that becomes a reasonable measure. This, I believe, was the rationale back of the major recommendation made at Arden House.

Of course, to a great extent it is a reiteration of long-accepted principles. Casefinding, diagnosis, and treatment have been the basis of tuberculosis control for many years. But when treatment was a long, drawn-out course requiring months or years of bed rest, it was necessarily to a large extent the separate responsibility of the hospital. When patients could not get into a hospital, most health departments made an attempt to effect some kind of isolation in the home and to provide such outpatient treatment as there was, but this was always regarded as less than satisfactory. Ideally, the patient entered the hospital and stayed there until he had fully recovered.

Under optimum conditions, chemotherapy can reverse the infectiousness of most tuberculosis patients within 3 to 5 months, and of many, much sooner.

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angina pectoris

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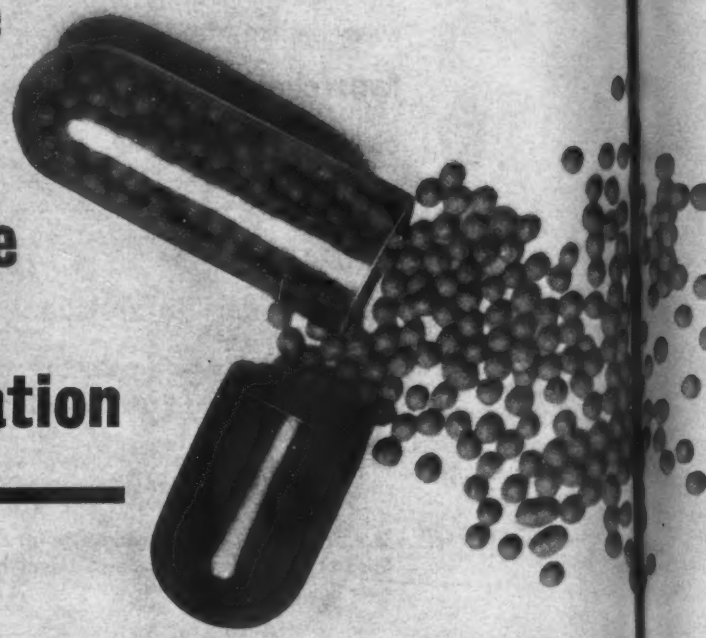

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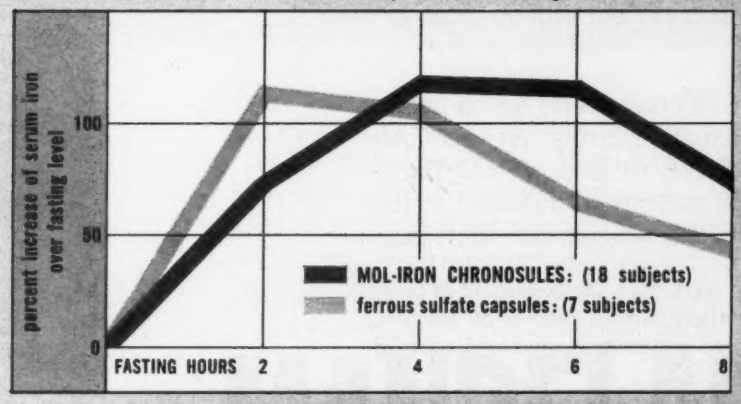
for improved treatment of iron-deficiency anemia now controlled release of more adequate amounts of iron in a form compatible with the body's ability to utilize iron

- Each Mol-Iron® Chronosule® contains 390 mg. of ferrous sulfate and 6 mg. of molybdenum oxide—sufficient iron to achieve effective therapeutic response.
- Gradual dosage release means greater patient tolerance—with minimal likelihood of gastrointestinal disorders.
- Marked increases in hemoglobin and hematocrit levels through sustained liberation of more absorbable Mol-Iron throughout gastroileal transit.
- Thus, all the advantages of Mol-Iron, the specially processed, co-precipitated complex of ferrous and molybdenum compounds, now in the form most conducive to efficient assimilation.

Comparative patterns of gastrointestinal absorption of iron following standardized test doses of Mol-Iron Chronosules and of ferrous sulfate capsules (normal fasting adults)



The curve for ferrous sulfate reflects a sharply increased absorption of iron during the first two-hour period, and a progressive waning of absorption during each of the succeeding test intervals. In contrast, the curve for Mol-Iron Chronosules mirrors a sustained and efficient rate of iron absorption over a full six-hour span following oral intake.

Dosage: Adults—one Mol-Iron Chronosule daily. In severe anemia, one Chronosule twice daily. Children—one Mol-Iron Chronosule daily. **Supplied:** in bottles of 30 Chronosules.

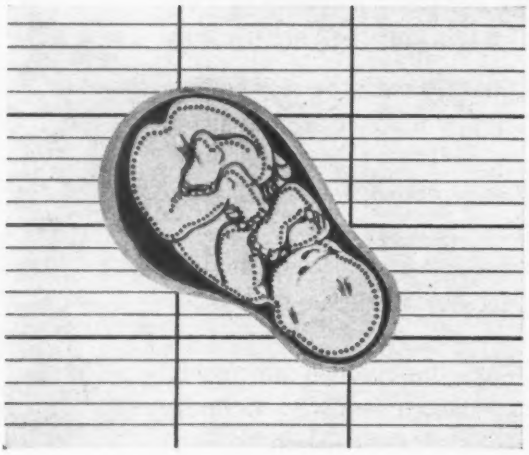
White WHITE LABORATORIES, INC. Kenilworth, New Jersey

now in threatened premature delivery

Dactil®-OB

Brand of piperidolate hydrochloride, hesperidin complex and vitamin C

maintains gestation / increases fetal survival rate



"Dactil has been used as a preventive measure with great success and with no untoward effects."[1]

In a study of 618 pregnancies over a period of 4 years, premature births were reduced from 13.1% of 168 patients without Dactil to 4.7% of 450 patients with Dactil.[2] In the treated patients birth weights were increased.

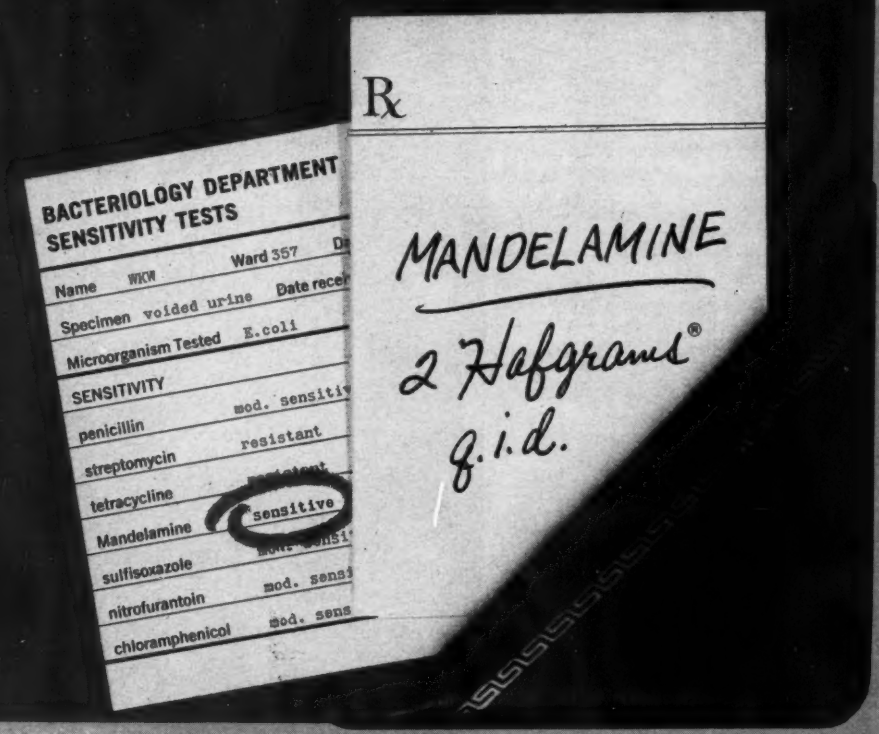
Dosage: 1 tablet q.i.d. from the beginning of pregnancy in any patient with a history of previous difficulty. For more information send for Dactil-OB brochure.

(1) Stephens, L. J.: Prevention of Premature Delivery: Am. J. Obst. & Gynec. 70:6 (June) 1958. (2) Stephens, L. J., in press. 72561

LAKESIDE

in urinary infections

MANDELAMINE PROVIDES BACTERIAL CONTROL WITHOUT RESISTANT MUTANTS



As resistance develops to more and more antibacterials, many physicians choose Mandelamine as their antibacterial of first choice in urinary infections. Mandelamine acts *specifically* in the urinary tract, and is effective against most urinary pathogens (including antibiotic-resistant Staph.). Resistant strains have not developed. Sensitization in any form has not occurred, even after prolonged use...and Mandelamine is economical, too.

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MANDELAMINE®

brand of methenamine mandelate

the urine-specific antibacterial

OP12

Full dosage information, available on request, should be consulted before initiating therapy.

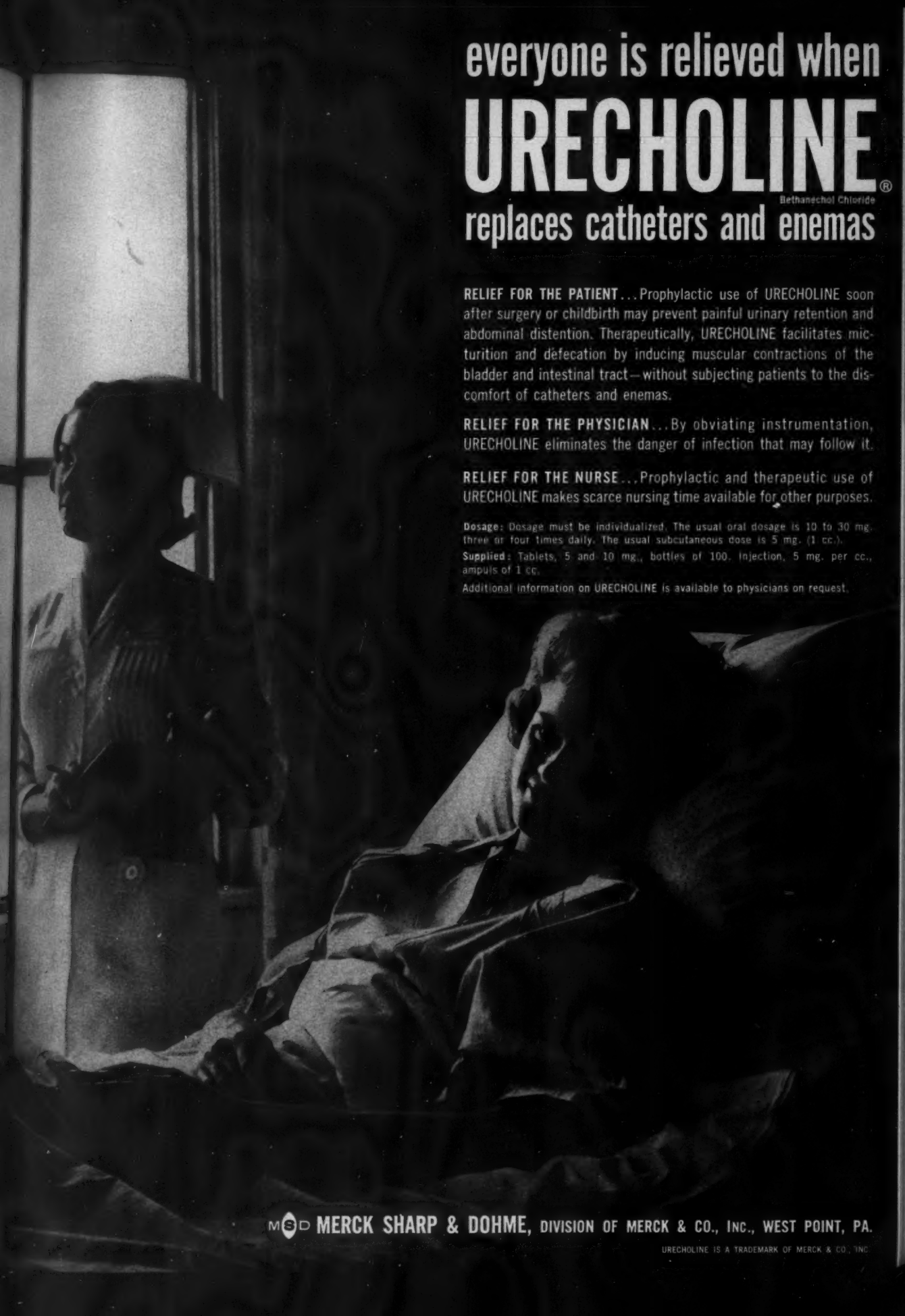
THE CASE AGAINST CATHETERS & ENEMAS

Catheters and enemas may be highly useful postoperatively and postpartum, but they are capable of serious drawbacks.

PATIENTS often dislike and fear such instrumentation, sometimes even more than the surgery or delivery that preceded it.

PHYSICIANS are mindful of the frequent risk of infection following catheterization, despite the most painstaking techniques. The passage of a sterile catheter into the bladder may introduce pathogens, since the urethra is not always sterile nor can it be readily sterilized.

NURSES find that catheterization and the administration of enemas require considerable time, which might be advantageously employed for other nursing procedures.



everyone is relieved when URECHOLINE®

Bethanechol Chloride

replaces catheters and enemas

RELIEF FOR THE PATIENT... Prophylactic use of URECHOLINE soon after surgery or childbirth may prevent painful urinary retention and abdominal distention. Therapeutically, URECHOLINE facilitates micturition and defecation by inducing muscular contractions of the bladder and intestinal tract—without subjecting patients to the discomfort of catheters and enemas.

RELIEF FOR THE PHYSICIAN... By obviating instrumentation, URECHOLINE eliminates the danger of infection that may follow it.

RELIEF FOR THE NURSE... Prophylactic and therapeutic use of URECHOLINE makes scarce nursing time available for other purposes.

Dosage: Dosage must be individualized. The usual oral dosage is 10 to 30 mg. three or four times daily. The usual subcutaneous dose is 5 mg. (1 cc.).

Supplied: Tablets, 5 and 10 mg., bottles of 100. Injection, 5 mg. per cc., ampuls of 1 cc.

Additional information on URECHOLINE is available to physicians on request.

MSD **MERCK SHARP & DOHME,** DIVISION OF MERCK & CO., INC., WEST POINT, PA.

URECHOLINE IS A TRADEMARK OF MERCK & CO., INC.

When the nervous insomniac needs help in relaxing tensions that torment sleep

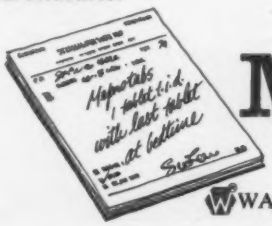
Daytime therapy for tension insomnia avoids "knockout" pills at night

What is this daytime therapy? It is the daytime use of Meprotabs (meprobamate) to stop nervous tensions from building up to the point where they keep the patient awake at night.

Has it been thoroughly studied? Yes. Over 20 published clinical reports† have proved that the daytime use of meprobamate is very effective in relieving insomnia. Many investigators have found it an excellent substitute for barbiturates.

What are its chief advantages? It eliminates the need for the "knockout" hypnotics at bedtime. The patient is relaxed and drifts easily into a sound sleep whenever he wants to. Meprotabs allows the patient to awaken alert and refreshed. There is no mental fogginess to confuse the patient at work.

Dosage: 1 tablet t.i.d. with last tablet at bedtime.
Supplied: White, coated 400 mg. tablets of meprobamate; bottles of 50.
†Bibliography available on request.



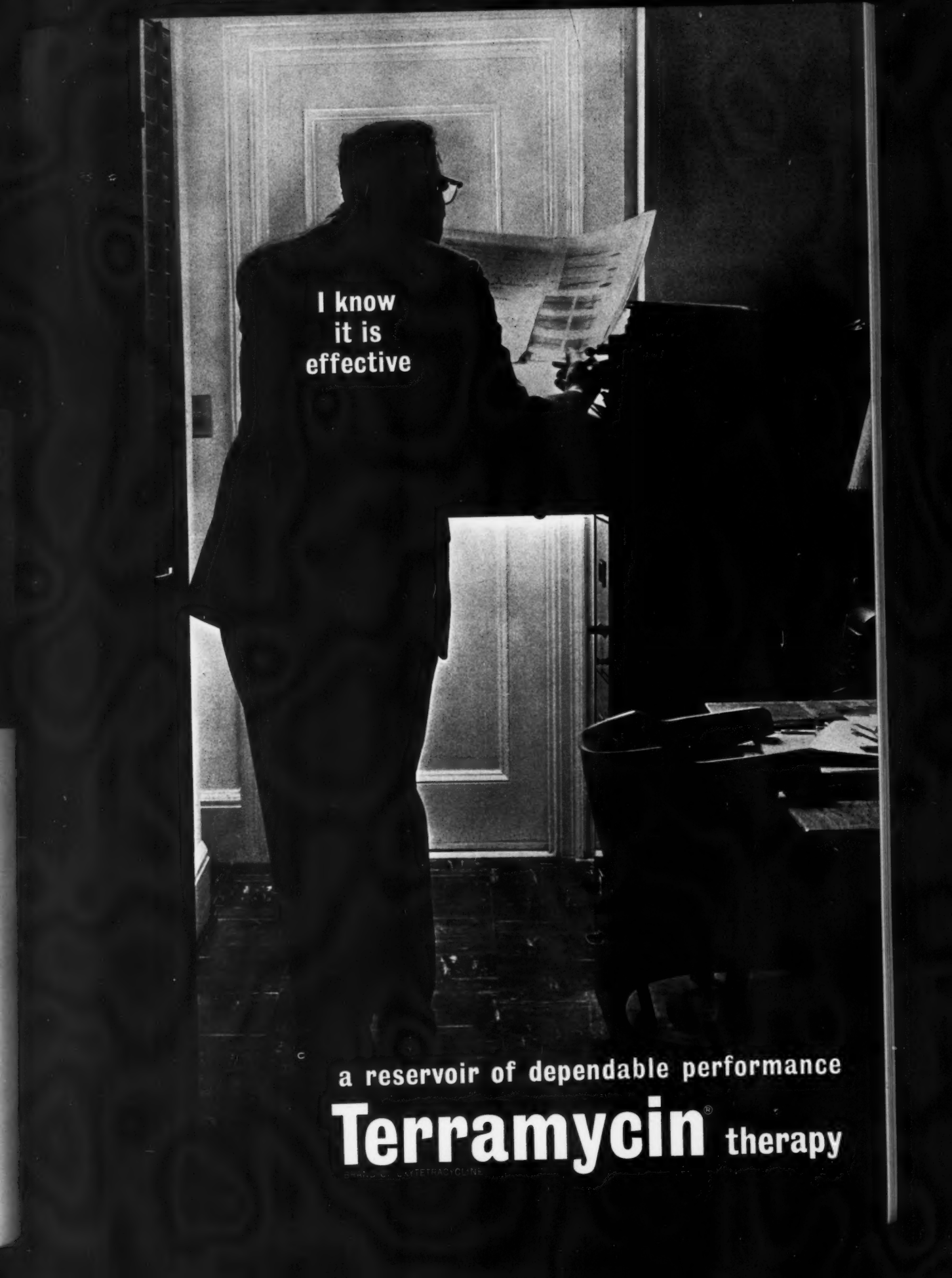
Meprotabs*

meprobamate tablets

WALLACE LABORATORIES / Cranbury, N.J.

CMT-3711

*TRADE-MARK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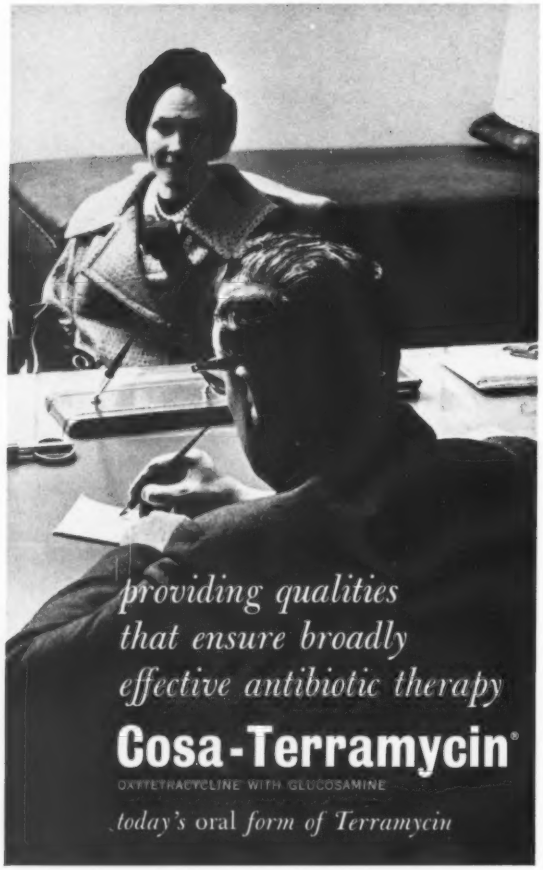
it is
effective
a reservoir of dependable performance
Terramycin® therapy



The continuing clinical effectiveness of Terramycin therapy derives as always from its proven antibiotic characteristics—rapid absorption; notably wide distribution in body tissues and fluids; high, active urinary concentrations; and a broad anti-infective spectrum embracing even such a troublesome organism as Pseudomonas. Additionally, Terramycin therapy provides the assurance of a 10-year record of exceptional toleration.

IN BRIEF

Cosa-Terramycin provides oxytetracycline (Terramycin®) with glucosamine for enhanced absorption.

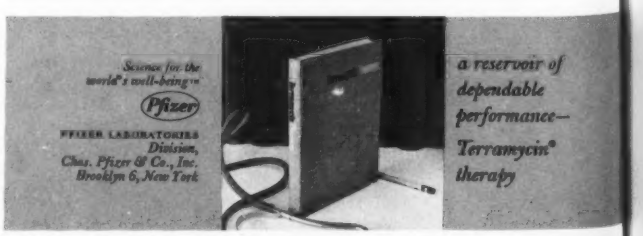
INDICATIONS: Because oxytetracycline is effective against both gram-positive and gram-negative bacteria, rickettsiae, spirochetes, large viruses, and certain parasites (amebae, pinworms), Cosa-Terramycin is indicated in a great variety of infections due to susceptible organisms, e.g., infections of the respiratory, gastrointestinal, and genitourinary tracts, surgical and soft-tissue infections, ophthalmic and otic infections, and many others.

ADMINISTRATION AND DOSAGE: Adults: 1 Gm. of oxytetracycline daily in four divided doses is usually effective. In *severe* infections, a larger dosage (2-4 Gm. daily) may be indicated. Infants and children: 10-20 mg. of oxytetracycline per lb. of body weight daily. Certain diseases are treated in courses.

SIDE EFFECTS AND PRECAUTIONS: Antibiotics may allow overgrowth of nonsusceptible organisms — particularly monilia and resistant staphylococci. If this occurs, discontinue medication and institute indicated supportive therapy and treatment with other appropriate antibiotics. Aluminum hydroxide gel has been shown to decrease antibiotic absorption and is therefore contraindicated. Glossitis and allergic reactions are rare. There are no known contraindications to glucosamine.

SUPPLIED: *Cosa-Terramycin Capsules,* 250 mg. and 125 mg. Terramycin is also available in: *Cosa-Terrabon® Oral Suspension,* a palatable preconstituted aqueous suspension containing 125 mg. per 5 cc. teaspoonful, bottles of 2 oz. and 1 pint; *Cosa-Terrabon® Pediatric Drops,* a palatable preconstituted aqueous suspension containing 5 mg. per drop (100 mg. per cc.), bottle of 10 cc. with calibrated plastic dropper; and *Terramycin Intramuscular Solution, conveniently preconstituted,* in the new 10 cc. multi-dose vial, 50 mg. per cc., and in 2 cc. prescored glass ampules, containing 100 mg. or 250 mg., packages of 5 and 100. In addition, a variety of other systemic and local dosage forms are available to meet specific therapeutic requirements.

More detailed professional information available on request.



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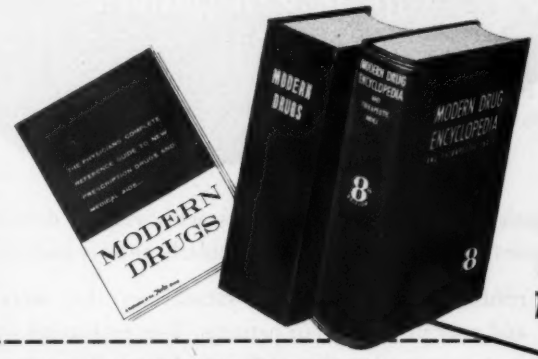

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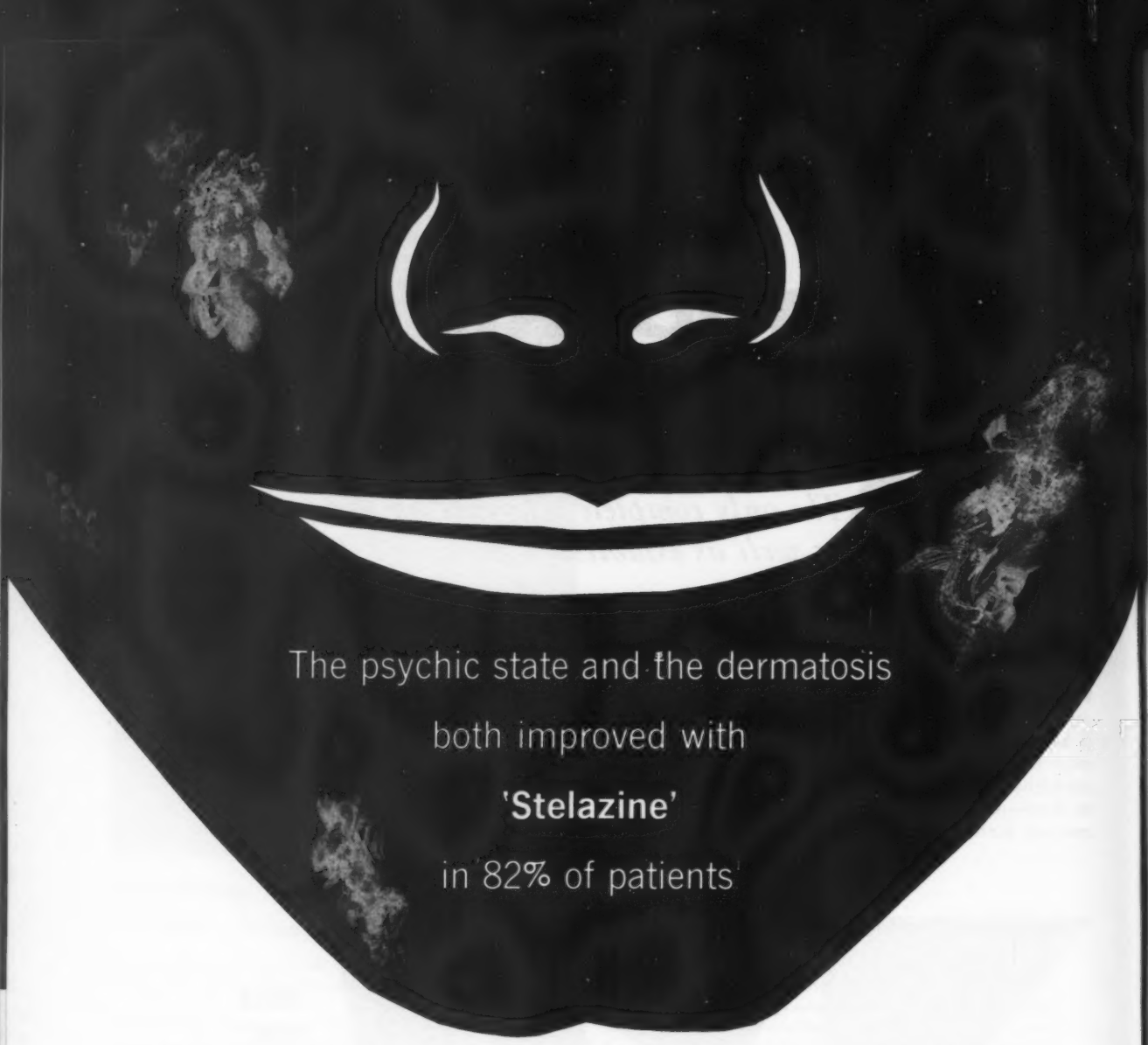

Aceves-Ortega[1] gave 'Stelazine' to 87 patients with various dermatoses. The psychogenic factor was predominant in these patients—particularly anxiety and its different manifestations.

He reports, ". . . results obtained were very satisfactory: they were excellent in 54% of the cases, fair in 28%, and poor in 18% of our patients. This evaluation was based on the improvement of the psychic state as well as that of the dermatosis."

in somatic distress, when there is a major anxiety component

Stelazine®

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For everyday and general hospital practice: 1 mg. and 2 mg. tablets, in bottles of 50 and 500. **N.B.:** For complete information on dosage, side effects, cautions and contraindications, see *Physicians' Desk Reference* before prescribing.

1. Aceves-Ortega, R.: Trifluoperazine in the Treatment of Various Psychocutaneous Diseases, Semana méd. Mexico *23*:117 (Nov. 20) 1959 (in Spanish).

Smith Kline & French Laboratories

A-116

Most patients under chemotherapy do just as well whether they are ambulant or on bed rest. Obviously, therefore, the majority of patients need not be in a hospital for the entire course of their treatment. Indeed, some patients can be satisfactorily treated without ever going to one.

As a result of these new wonders, the average term of hospital care has become shorter, and many tuberculosis hospitals have closed or converted to other purposes. The quite reasonable assumption is that tuberculosis patients now can be more economically treated in the community. The trouble is that while outpatient treatment can be adequate, it often is not. Health departments have not been staffed or equipped to take care of large numbers of tuberculosis patients. The declining death rate and the closing of hospitals have been interpreted by the public as evidence that tuberculosis services in general can be cut back, and health departments are in considerable difficulty keeping what they have. New treatment services, either in the health department or in other community facilities, are rarely considered. Tuberculosis specialists are in short supply. Few young physicians now choose this specialty, and as tuberculosis hospitals close, members of their medical staffs retire or go into other fields of medicine.

In a great many communities, therefore, most tuberculosis patients are getting inadequate treatment or none at all. They remain as much of a potential problem in public health as were the patients on hospital waiting lists in prechemotherapy days.

A SAFE APPROACH

IN THE TREATMENT OF PSORIASIS

RIASOL

Clinically tested, safe and effective RIASOL offers maximum assurance against recurrence and adverse reactions.

RIASOL contains 0.45% Mercury chemically combined with soaps, 0.5% Phenol, and 0.75% Cresol. Available at pharmacies or direct in 4 and 8 fluid ounces. *Write for professional sample and literature.*

SHIELD *Laboratories*

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A DIFFERENT APPROACH IN CONTROL

The solution, it appears to me, lies in changing the order of our thinking about tuberculosis control—in being realistic in terms of the tools we now have to work against the disease. Where we used to say, "We must find all the persons with tuberculosis, and then treat as many as we can—at least then we will know who they are," I believe the Arden House recommendation is asking us to say, "We will treat all the persons with tuberculosis, and of course, since we do not know who some of them are, we must find them in order to treat them." If we place treatment at the center of our thinking, it can be a much more effective public health measure than it has been so far.

I should like to warn against equating "public health" with "health department." In our complex social organization, a great many agencies and individuals, both public and private, are engaged in activities concerned with public health. Poliomylitis or DTP injections protect the public health whether they are given in the health department or the private physician's office. In some places, the health department provides treatment for tuberculosis patients in clinics or hospitals or both; in others, the health department does not give any kind of medical care, but treatment is still a public health measure. Casefinding for tuberculosis is public health activity, whether it is done by the health department or the tuberculosis association. To be sure, the health department has legal responsibility for tuberculosis control, but that does not mean it carries on all tuberculosis control activities in the community. Before any significant change in emphasis in this area can come about, there must be a change in the thinking and activities of many other agencies and individuals as well.

STAGES OF CONTROL

If we accept this interpretation of the major conference recommendation, what then can be done to carry it out? Certainly there will be wide variation in different areas, depending greatly upon the adequacy of present tuberculosis control programs, but the following general sug-

in arthritis-fibrositis syndrome

The Good Results You Used To Get With massive vitamin D therapy, plus

EDREX™

LECICAPS™

- **POTENT, PROVEN ANTIARTHRITIC ACTION** of vitamin E in therapeutic dosage.
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Time-proven effectiveness of vitamins D and E in relieving pain, swelling, ankylosis, and restricted motion of arthritis-fibrositis makes EDREX a rational first choice in your management of this syndrome. Addition of bile salts assures full therapeutic effect, even in your patients with impaired absorption of fat-soluble vitamins.

Each Lecicap contains:

Vitamin D....50,000 U.S.P. Units
Vitamin E (mixed tocopherols) .....50 mg.
Bile Salts .....100 mg.

DOSAGE: 1 Lecicap t.i.d. for three days. Dosage is then increased by 1 Lecicap daily until total intake is 6 daily. After improvement is noted, dosage is gradually reduced. **SUPPLIED:** Bottles of 90, 250, 500 and 1000 Lecicaps.

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gestions seem reasonable. For convenience, we can divide tuberculosis control as far as treatment is concerned into three stages: Stage 1, in which the community is not now able to provide adequate treatment for presently known active cases; stage 2, in which the program proposed for stage 1 is well underway; stage 3, in which programs for both previous stages are adequate.

Stage 1. In a community where any significant proportion of the patients with known active cases of tuberculosis are not receiving adequate treatment either in the hospital or at home, the first efforts should be to remedy that situation, by whatever means and using whatever resources the community has. Treatment would include the prophylactic administration of isoniazeid to those groups of young children for whom its usefulness has been demonstrated. Casefindings should be deferred except for careful followup of all close contacts of persons known to have active disease and complete diagnosis of suspects among them.

Stage 2. If a high proportion, perhaps 75-80 percent, of persons known to have active disease are under treatment, and most contacts are being examined, casefinding should be extended, as resources are available, beyond the contact group to other high-incidence groups, but this should be done without taking staff time needed for treatment programs for active cases. The community is now in a position to add to its treatment program the persons who have previously had active disease but are judged to have been inadequately treated. Prophylactic treatment for persons known to have recently converted from tuberculin negative to positive is also in order.

Stage 3. The community that has reached stage 3 presumably has found most of its active cases, and they are under adequate treatment. In addition, certain categories of inactive cases have been found and are being treated. It can then undertake to find and treat persons at especially high risk, such as tuberculin reactors with suspicious 14" by 17" chest X-rays or silicotics with large tuberculin reactions or X-ray changes, or both.

This proposal to consider tuberculosis control in three stages implies knowledge of the current status of tuberculosis cases. Details about what information should be gathered, and how records should be kept and data analyzed in order to have such knowledge, are not appropriate

Arden House Conference Recommendation

The major recommendation of the conference is a program for the widespread application of chemotherapy as a public health measure for the elimination of tuberculosis in the United States.

Goal. To sterilize that important part of the reservoir of tubercle bacilli that presently exists throughout the country in persons currently suffering from active tuberculous disease, whether presently known or unknown to public health authorities, and in selected persons who previously have had active disease and were inadequately treated.

Technique. Mobilize all resources for a widespread application of the scientifically demonstrated and medically accepted procedures of adequate chemotherapy. These include the proper dosage of appropriate drugs or combination of drugs given continuously over an adequate period of time—procedures that are known to destroy tubercle bacilli in the human body, render the patient's disease non-communicable to others, and minimize the possibility of reactivation.

With your TEEN-AGE dietary regimen...

emphasize MEAT protein

Meat is an important food which can supply needed protein to teen-age diets

pretty, peppy, popular Peggy

The strange and fanciful eating crazes of teen-age girls often indicate youthful efforts to show their independence. They either eat much too much of the wrong foods and become unhappily over weight, or, they eat too little jeopardizing health during a most critical period of development.

These teen girls will listen more readily to your professional advice, when you point to the fact that pretty complexions, trim figures, energy and vivaciousness can depend on the food they eat.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

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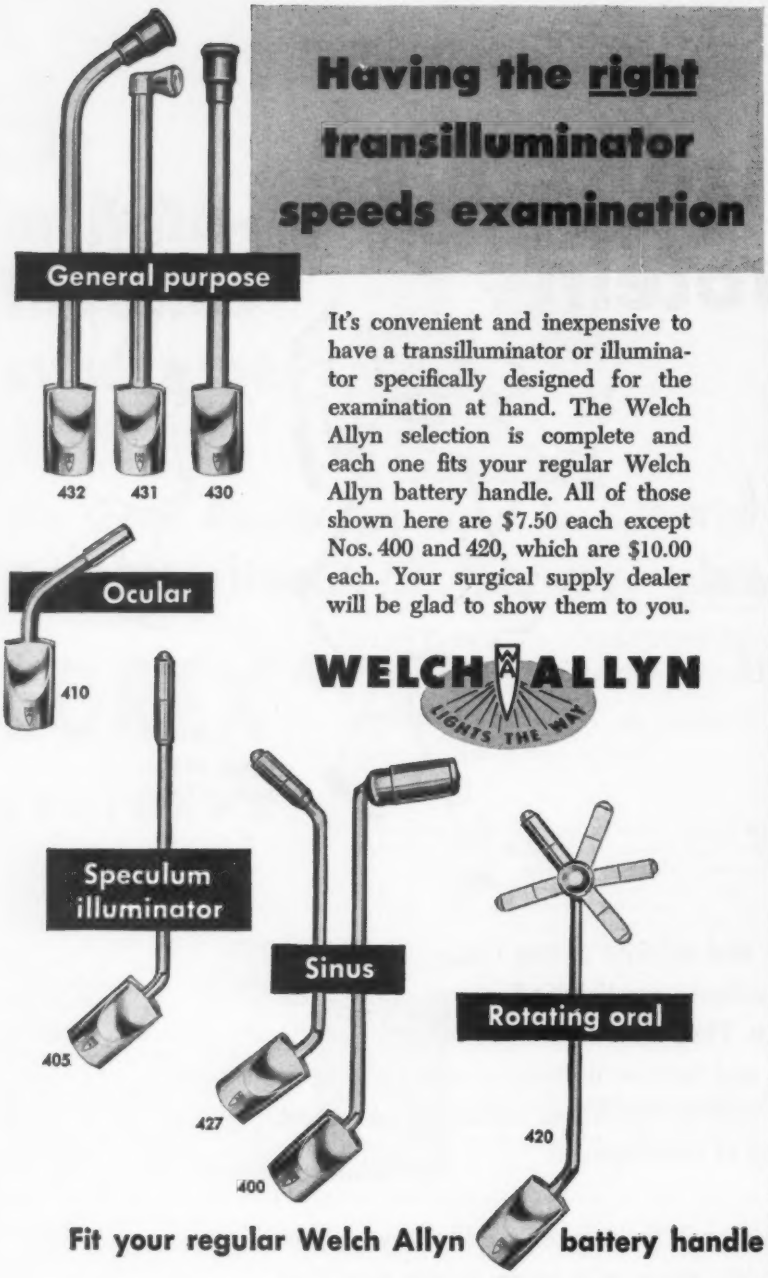
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here, but the subject is of very great importance. Similarly, approaches to case-finding, although they will not be discussed here, will require careful judgment and planning.

Many communities in the United States, in spite of our generally favorable situation, are still at stage 1. That is, a considerable proportion of the known active cases in the community are not receiving adequate treatment. Concentrating control efforts on treatment may help in some instances, but in order to progress to more favorable stages, these communities will have to find ways of increasing treatment resources. Ideally, of course, tuberculosis treatment services include hospital care and outpatient care, coordinated in such a way that patients who need to be in the hospital can be, and patients who do not need hospital care can be taken care of outside of the hospital. Since such coordination is so often not the actual practice, I will discuss hospital care and outpatient care separately.

The need to improve the quality of treatment received by tuberculosis patients outside the hospital is an insistent issue. Most big cities do provide adequate to excellent outpatient treatment; because they usually have large caseloads, they may need more services and facilities, but the quality of their treatment programs is by and large very good. In many smaller communities, however, tuberculosis patients who are not in a hospital receive meager treatment or none at all. Little can be done to "mobilize all resources for a widespread application of the scientifically demonstrated and medically accepted procedures of adequate chemotherapy" in such situations without some new thinking and a willingness to explore every possibility.

Although new funds or additional professional workers are not easy to obtain for tuberculosis programs at present, the possibility of getting either will be much better if the best use is made of money and people now available and if specific proposals can be made for the use of new money. I have therefore been considering what is needed for good tuberculosis outpatient chemotherapy treatment and attempting to spell out a number of possible ways of providing what is needed. While the suggestions made are directed especially toward services for the 50 percent of patients who live elsewhere than in cities of more than 100,000 population, some of them may apply in urban centers as well.

The various services needed for a treatment program may be provided by different agencies or paid for from different funds, but the success of each in promoting the recovery of tuberculosis patients depends upon how well they all supplement and support each other. In most communities, the health department, because of its legal responsibility for tuberculosis control, is the most appropriate agency to coordinate all services for tuberculosis patients.

In the big cities the number of tuberculosis patients treated in outpatient facilities is sufficiently large to require full-time medical staff for tuberculosis clinics. Elsewhere, the limited time of consultant physicians is used for film reading or evaluation of patients' records, and it is common for tuberculosis patients to see a physician only very rarely. When the patient comes to the clinic, he sees a nurse, who has the responsibility of interpreting to him whatever information or recommendations the physician may have recorded when he reviewed the case. She must answer the patient's questions and encourage him to continue treatment. Her record of her interview with the patient is all the physician has to go by except laboratory reports and X-rays. In this kind of situation, the nurse carries an inappropriate burden. The physician cannot give the professional services the patient needs, and the

T.M.
Anturane
brand of sulfinpyrazone

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effectively checks the progress of gout by intensive, sustained, uricosuric action

In the long-term treatment of gout, the value of a uricosuric agent such as A[illegible] in preventing accumulation of the urate dep[illegible] esponsible for chronic disability and joint dera[illegible]ent is well established.[1]

Clinical experience has demonstrated that Anturane not only prevents formation of new urate deposits, but with sustained therapy, also causes absorption of preexisting tophi.[2] With reduction in hyperuricemia, the incidence and severity of acute attacks are reduced,[3] the mobility of affected joints is improved,[4] and lingering joint pain is relieved.[2,4]

References: 1. Seegmiller, J. E., and Grayzel, A. I.: J.A.M.A. 173:1070, 1960. 2. Yü, T. F., Burns, J. J., and Gutman, A. B.: Arth. & Rheumat. 1:532, 1958. 3. Kersley, G. D., Cook, E. R., and Tovey, D. C. J.: Ann. Rheumat. Dis. 17:326, 1958. 4. Gutman, A. B., and Yü, T. F.: Bull. New York Acad. Med. 34:287, 1958.

Full product information regarding dosage, side effects, precautions and contraindications available on request.

Anturane[T.M.], brand of sulfinpyrazone: Scored tablets of 100 mg. in bottles of 100.

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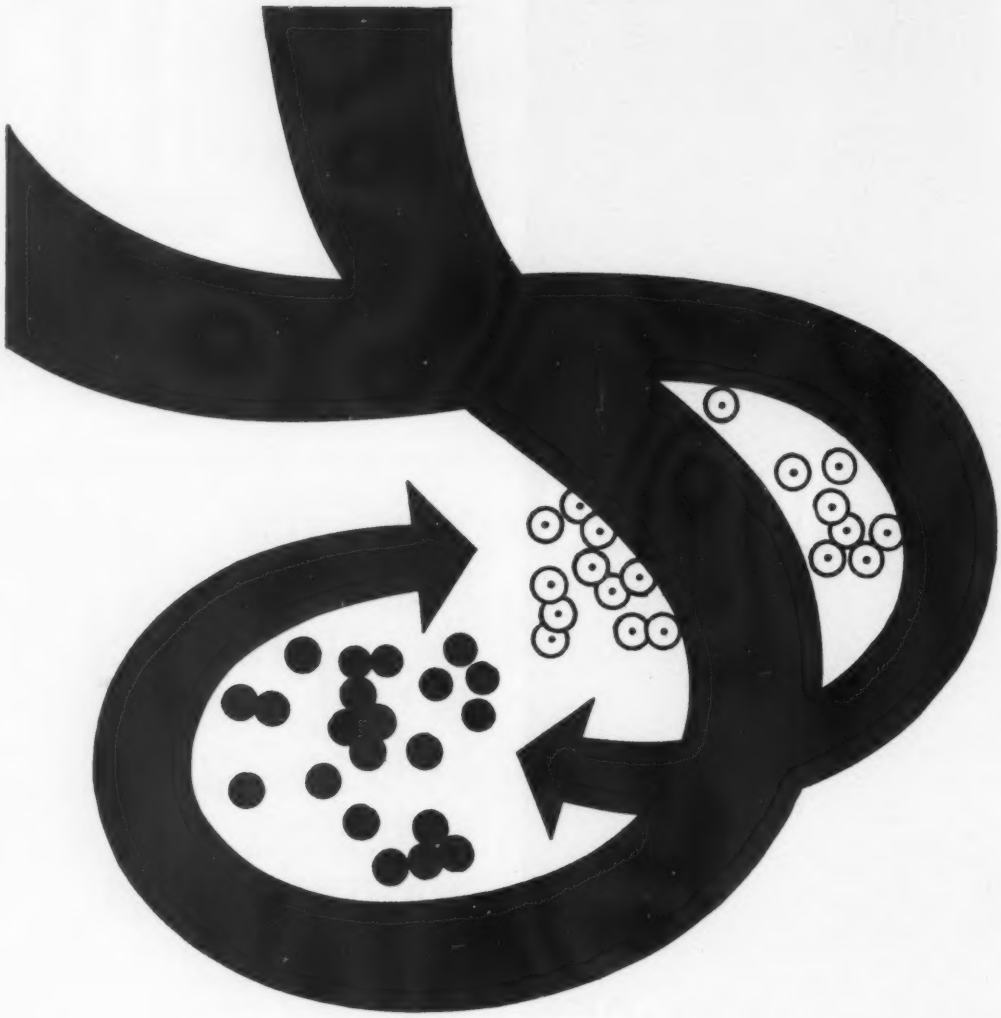

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In 1961, nine $1,000 awards will be made: three in general practice; two in pediatrics; two in obstetrics and gynecology; and two in internal medicine. Training is to be taken in an osteopathic college or college-affiliated hospital.

Grants are available to osteopathic graduates of 1957, 1958, 1959, and 1960. Application forms may be secured from the American Osteopathic Association, 212 E. Ohio Street, Chicago 11. Completed forms must be returned to the Association by May 1.

The Association administers this program through its Committee on Mead Johnson Grants. Mead Johnson & Company, in keeping with its policy, limits its participation solely to the provision of funds.

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maximum salicylate benefit
around the clock–day after day–
with t.i.d. dosage of

PERSISTIN®

unique formula combines both slow absorption salicylates and fast absorption salicylates for prolonged and immediate effectiveness

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Each tablet contains:

Salicylsalicylic acid 7½ gr. (480 mg.) for delayed effects
Acetylsalicylic acid 2½ gr. (160 mg.) for prompt effects

The timed-absorption characteristics of the salicylates in the Persistin formula permit the convenience of t.i.d. dosage to provide 24-hour salicylate effects for the arthritis patient—thus affording pain relief and salicylate benefit on a day-long and night-long basis.

Usual dosage: One Persistin tablet on arising, one eight hours later and two before retiring. Virtually free of gastric distress.

Supplied: Bottles of 50 scored, uncoated tablets.

REFER TO PDR
PAGE 813

Sherman Laboratories
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patient is often unsatisfied and disinclined to follow recommendations that reach him secondhand. For the patient with tuberculosis, certainly when it is active, seeing a physician once a month seems a reasonable requirement.

Remedies are not easily at hand, but a number of possibilities are worth consideration. The limited time of the tuberculosis specialist, who perhaps comes into the community only occasionally, might be better used in consultation with local general practitioners, who in turn could provide continuing medical care to patients. In this kind of arrangement, when patients were unable to pay, the local physicians could be paid for their services by the health department, the tuberculosis hospital board, or whatever agency is responsible for care of tuberculosis patients. The advice of the county medical society could be sought in selecting physicians, and in arranging for them to be paid. It would seem wise, moreover, for specialist consultation to be available to all physicians treating tuberculosis patients, whether the patient or the community pays for the treatment.

Another plan that has been found feasible in some areas is the staffing of tuberculosis outpatient clinics by physicians from tuberculosis hospitals. If clinics are held in communities within a reasonable distance from the hospital, it should be possible for them to be frequent enough to allow physicians to give patients appropriate personal attention.

In communities where the tuberculosis clinic caseload is not large enough to justify full-time medical staff but where there is a chest physician, or an internist or general practitioner with special interest and training in chest diseases, an arrangement might be made for part-time service from the private physician, for which he would be paid by the appropriate agency. A high proportion of tuberculosis patients now are not able to pay for long-term medical care, and the number of those who can is in many areas not large enough to support a private practice. Fees paid for clinic work would in some instances make it possible for a physician to afford to specialize.

If physicians are to give proper treatment to tuberculosis patients, laboratory and X-ray services must be readily available. In the ideal situation, the physician has the laboratory report and X-ray, when he has ordered these, at the time he sees the patient. Too often the X-ray the physician sees is one taken at the time of the last visit, which may have been too long a time before to give a picture of the present condition. It may be necessary to have facilities that make it possible to develop and dry X-rays quickly, so that they can be taken on the day of the appointment, or to make special arrangements for patients to come in for X-rays a few days before their clinic appointments.

Laboratory work should include not only smears and cultures for *Mycobacterium tuberculosis*, but also drug sensitivity tests and, especially in some areas, tests for atypical organisms. If the health department does not have a laboratory, a local hospital laboratory may be able to do the work. Tuberculosis associations are a possible source of help in paying laboratory salaries or financing the training of laboratory staffs.

That a chemotherapy program cannot succeed without readily available drugs is a truism. Many programs, however, do not have a budget for this purpose. The cost of tuberculosis drugs is relatively low, but even a small amount of money may be beyond the means of a patient who is subsisting on a welfare budget. Or it may be the reason for lack of cooperation in one who is not very enthusiastic about following medical recommendations. If the health department or hospital board, or whatever agency is providing medical care, does not have funds for this purpose, they can perhaps get help from the tuberculosis association or other agencies in the community. The administration of funds for drugs belongs in the clinic, so that drugs can be readily given to patients without individual and separate arrangements.

The public health supervision of patients with active disease is of course the

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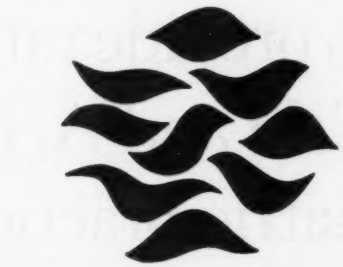

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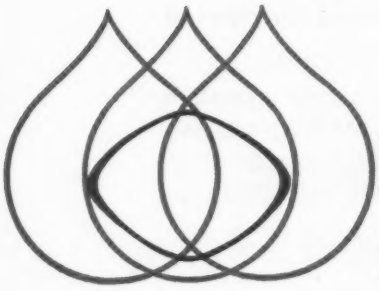

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VI-SOL® vitamins newly reformulated to complement the dietary patterns of today's infants and children.

Beginning with the critical newborn period and continuing through the preadult years, new Vi-Sol vitamins supplement and complement the dietary patterns of today's infants and children. They are formulated with consideration of the recommendations of the authorities* and of the practical needs of everyday medical practice.

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(amount per recommended dose)

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Vitamin C (mg.)	60	75	60	75	60	75
Vitamin D (units)	400	400	400	400	400	400
Vitamin A (units)	3,000	4,000	3,000	4,000	3,000	4,000
Thiamine (mg.)			1	1.2	1	1.2
Riboflavin (mg.)			1.2	1.5	1.2	1.5
Niacinamide (mg.)			8	15	8	15
Pyridoxine (mg.)					1	1.2
Panthenol (mg.)					3	5
B_{12} (mcg.)					1	3
Biotin (mcg.)					30	40

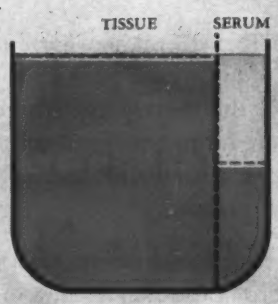
†Also available in teaspoon dosage

*Recommended Daily Dietary Allowances established by the National Research Council, and endorsed by the Council on Foods and Nutrition of the American Medical Association, "Vitamin Preparations As Dietary Supplements and As Therapeutic Agents," J.A.M.A., Vol. 169, No. 1, pp. 41-45, Jan. 3, 1959.

FACTS ABOUT MER/29

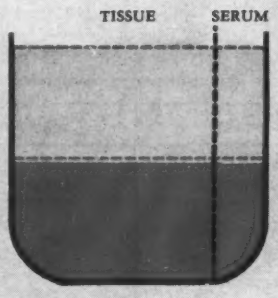
how MER/29 differs from other cholesterol-lowering measures . . .

effect on body pool of cholesterol



OTHER MEASURES

There is no evidence that tissue cholesterol is reduced even in the face of serum cholesterol reduction.



MER/29

Studies in patients have demonstrated a reduction of approximately 40% of *tissue* cholesterol, as well as a significant reduction of the *total* sterol pool.

. . . the first cholesterol-lowering agent to inhibit the formation of cholesterol within the body, reducing both tissue and serum cholesterol

. . . the only specific cholesterol-lowering agent: no demonstrable interference with other vital biochemical processes reported to date; toleration and absence of toxicity established by more than 2 years of clinical investigation

. . . convenient dosage: one 250 mg. capsule daily before breakfast

...and how these differences can benefit your patients

particularly those with high cholesterol levels, coronary artery disease, and generalized atherosclerosis

MER/29 REDUCES CHOLESTEROL IN 8 OUT OF 10 PATIENTS: MER/29 reduces both serum and tissue cholesterol, *irrespective of diet.* Although some physicians prefer to use MER/29 in conjunction with controlled diets, cholesterol can be reduced successfully without such limitation.

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DIRECT, SPECIFIC CHOLESTEROL-LOWERING ACTION WITH MER/29: Some agents used to reduce cholesterol have other important primary effects — such as hormonal or vasodilator action. The primary, the *only* known function of MER/29 is to reduce cholesterol.

MER/29 HAS PRODUCED FEW SIDE EFFECTS, NO TOXICITY: Patients have been treated with MER/29 for continuous periods up to 19 months. In no case has there been evidence of serious toxic effects on the function of any vital organ or system. Side effects (nausea, headache, dermatitis) are rare and have usually been associated with dosages greater than those recommended for effective therapy. MER/29 is compatible with other cardiovascular therapies. It can be used along with measures which control anxiety, hypertension, obesity, and other conditions associated with cardiovascular disorders. These include nitroglycerin and PETN, and there have been no reports to date of incompatibility with anticoagulants.

CAUTION: Since long-term MER/29 therapy may be necessary, periodic examinations, including liver-function tests, are desirable. Also, since MER/29 inhibits cholesterol biosynthesis, and cholesterol plays an important role in the development of the fetus, the drug is contraindicated in pregnancy.

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HYDRODIURIL® WITH MEPROBAMATE
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to relieve the symptoms of premenstrual tension

for EDEMA... CYCLEX provides the prompt diuresis of HYDRODIURIL for rapid reduction of weight gain, breast fullness, abdominal congestion

for MOOD-CHANGES... CYCLEX supplies the effective relief of meprobamate for nervousness, irritability, tension, nausea, malaise, insomnia

for GI DISTRESS... CYCLEX affords quick-acting relief of nausea and bloating associated with premenstrual tension

SUPPLIED: Tablets, bottles of 100. Each tablet contains 25 mg. of HYDRODIURIL (hydrochlorothiazide) and 200 mg. of meprobamate.

DOSAGE: Usual adult dosage is one tablet once or twice a day, beginning on the first morning of symptoms and continuing until the onset of menses. CYCLEX may be continued through the menstrual period.

Before prescribing or administering CYCLEX, the physician should consult detailed information on use accompanying package or available on request.

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MSD

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responsibility of the health department and is done chiefly by public health nurses. If seriously ill patients are hospitalized and medical supervision of clinic patients is adequate, the nursing service needed for an outpatient tuberculosis treatment program can be given in most communities by the health department's generalized nursing service. When medical supervision is inadequate, however, patients may be carried as "active" or "activity undetermined" cases for long periods without evaluation. Thus the nursing caseload of tuberculosis patients becomes unreasonably large, and priorities for service difficult to establish. Patients may be neglected in the first few days after diagnosis when help given to them and their families in understanding their illness and learning what to do about it could have long-term benefits.

The public health nurse contributes so greatly to tuberculosis control that she often has pushed upon her tasks it is unreasonable to expect her to do. The sometimes laborious and time-consuming job of trying to locate a patient who has moved or cannot be found can be done by someone other than a nurse. This might be a part-time job for a trained layman, or a full-time job shared by several communities. Assignment of trained laymen for this purpose has been worked out successfully by at least one State.

In some areas, public health nurses give twice-weekly streptomycin injections, and this is another task that could well be done by someone else. If there is no visiting nurse service, a registered or practical nurse could be hired specifically for this purpose. Married nurses might be found who could take it as part-time work.

In all of these instances, if public funds are not available, tuberculosis association help might be sought to pay salaries.

Chemotherapy applied as a public health measure requires a system of providing services in a way that does not place the patient on one side and the community on the other. The patient's ability and willingness to accept treatment are as important as the services offered. While it cannot be denied that a small percentage of tuberculosis patients will remain stubbornly uncooperative in spite of every effort, most patients will stay with recommended treatment if it is possible and reasonable for them to do so.

The location of clinics is an important factor in such a system. While modern transportation allows one clinic to serve a fairly large area, it is not reasonable to expect patients to make a half day's journey to the clinic. Volunteers can serve effectively in taking patients to and from the clinic. If they cannot be recruited, and patients must use public transportation, some arrangement must be made to pay their fares.

Scheduled appointments and reminder letters should be a part of the system, and if volunteers can be found to interest themselves in getting patients to the clinic, they may be helpful in the reminding. The clinic itself should be made as pleasant and attractive as possible, and here again volunteers can often be helpful. A coat of paint may not transform dingy quarters completely, but it can help a great deal in making them more cheerful.

The area of economic and social assistance is too broad to discuss in detail, but a patient cannot be expected to stop work in order to protect the community from his infection unless the community takes some responsibility for income sufficient for food, shelter, and other necessities of life for him and his family.

The public health purpose of tuberculosis treatment also precludes withholding drugs or services from patients because they have left the hospital against advice or committed minor infractions of rules. It indicates instead a conscious attempt to work out with the patient a regimen that he can accept, even if it would not be the first choice of the physician. The patient's cooperation is so essential that all reasonable concessions are justified in order to obtain it.

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when due to cow's milk allergy

In a clinical study[1] of 206 milk-allergic infants, the "colicky" symptoms evident in 31% were promptly relieved when the infants were placed on a soya formula.

FOR PREVENTION: When allergic tendencies exist in parents or siblings, it is advisable to start the "potentially allergic" newborn on Sobee.

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1. Clein, N. W.: Pediat. Clin. North America, Nov., 1954, pp. 949-962.

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Hypoallergenic soya formula

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"Crash diets" and "food substitutes" may reduce weight dramatically, but the greatest need is physician supervision for the remolding of indulgent eating habits.

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FORMULA: Tablets and Capsules

Semoxydrine HCl (Methamphetamine HCl)	5 mg.
Pentobarbital	20 mg.
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A-134

"sure...I used a crash diet...lost five pounds and now I've gained it all back!"

but to bring weight down and keep it down...

Obedrin®

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Obedrin and the 60-10-70 Menu Plan will help you successfully treat patients who *must* reduce excess pounds and *maintain* optimum weight. Obedrin aids in curbing abnormal food cravings and facilitates establishment of correct eating habits.

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- Methamphetamine — proved anorexigenic and mood-lifting effects
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Calorie counting?

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1 a suppository, such as **Desitin**, reduces straining at the stool by lubricating the anal canal.[1]

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DESITIN SUPPOSITORIES lubricate, soothe, protect, ease pain, itching . . . and aid healing (with Norwegian cod liver oil, rich in vitamins A and D and unsaturated fatty acids). Free from drugs which might mask serious rectal disease.

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HOSPITAL CARE

Hospital care is the most costly single item in tuberculosis control. Even though a great many tuberculosis hospitals have closed or have been converted to other uses, rising unit costs have kept the total cost high. The most advantageous use of hospitals in the total program of tuberculosis treatment is therefore of utmost importance.

I think there is little disagreement with the concept that a period of hospitalization, beginning as soon as a diagnosis is established, provides the best circumstance for recovery for any tuberculosis patient. How long the patient should stay in the hospital is a matter about which there is a greater range of opinion. The most conservative position is that the patient should stay until he has fully recovered. While chemotherapy has made this a shorter period than used to be necessary, "full recovery" even today means about 18 months. The trend in many hospitals is toward much shorter stays, until the disease is inactive (about 9 months in the majority of cases), or, even less conservative, until the patient is no longer infectious (not more than 6 months in the majority of cases).

Two issues in addition to the theoretical "best circumstance" for treatment of tuberculosis need to be considered in recommended length of hospital stay. In both, it is implicit that in order to provide good care for tuberculosis patients the hospital must operate as a part of the community. The two issues are: first, whether the patient will continue to receive adequate care when he leaves the hospital; and second, whether he is willing to stay in the hospital or, in his own thinking, is able to do so.

Because of the first issue, it is not unusual for hospitals to keep patients, or to try to, for longer periods than now are actually necessary. Hospitals may be separated from community clinic services, either because they fall in different government jurisdictions or because they are geographically isolated, or both. In some communities, as I have already said, appropriate clinic services do not exist. For all of these reasons, it is not surprising that hospital staffs sometimes feel they are giving the patient the best chance of recovery if they keep him for the full course of his treatment. Looking at the matter objectively, and in terms of what is best for tuberculosis control, however, it seems apparent that a better course would be for the hospital to take a hand in providing clinic services, either in its own outpatient department or elsewhere, if its location makes that impractical. If the hospital is under one government department and an existing clinic in need of staff under another, negotiation may be necessary, but such a situation is not an insurmountable obstacle.

An orderly plan for chemotherapy as a public health measure includes hospitalization for patients who need it when they need it, and therefore requires the wisest use of expensive hospital facilities—for newly diagnosed patients and for patients who need surgery or who do not respond to therapy. (Some patients remain infectious in spite of the best possible treatment, but it seems reasonable that such "lifetime" patients can be cared for with less than a full range of hospital services.) Physicians treating patients in clinics should be able to get them hospitalized when it is suitable. Clinging to the old patterns of prolonged stay for all patients admitted and separation of hospital and clinic does not fit into such an orderly plan.

The second issue, how the patient feels about hospitalization, is also a concern in public health. The AMA rates in many hospitals are very high. Even if one were to take the attitude that all those who left against advice should be rounded up and returned to a locked ward, it would be impossible to carry out that kind of policy. If, on the other hand, an attempt is made to accommodate recommendations somewhat to the patient's feelings about going to the hospital, it seems likely that more patients can be helped to get more benefit from hospital care. The patient who is dismayed at the prospect of months in the hospital can perhaps be persuaded to stay for 1 month. If that month is recognized as a planned short stay, and used as an opportunity for intensive care and education, it may prove more profitable in

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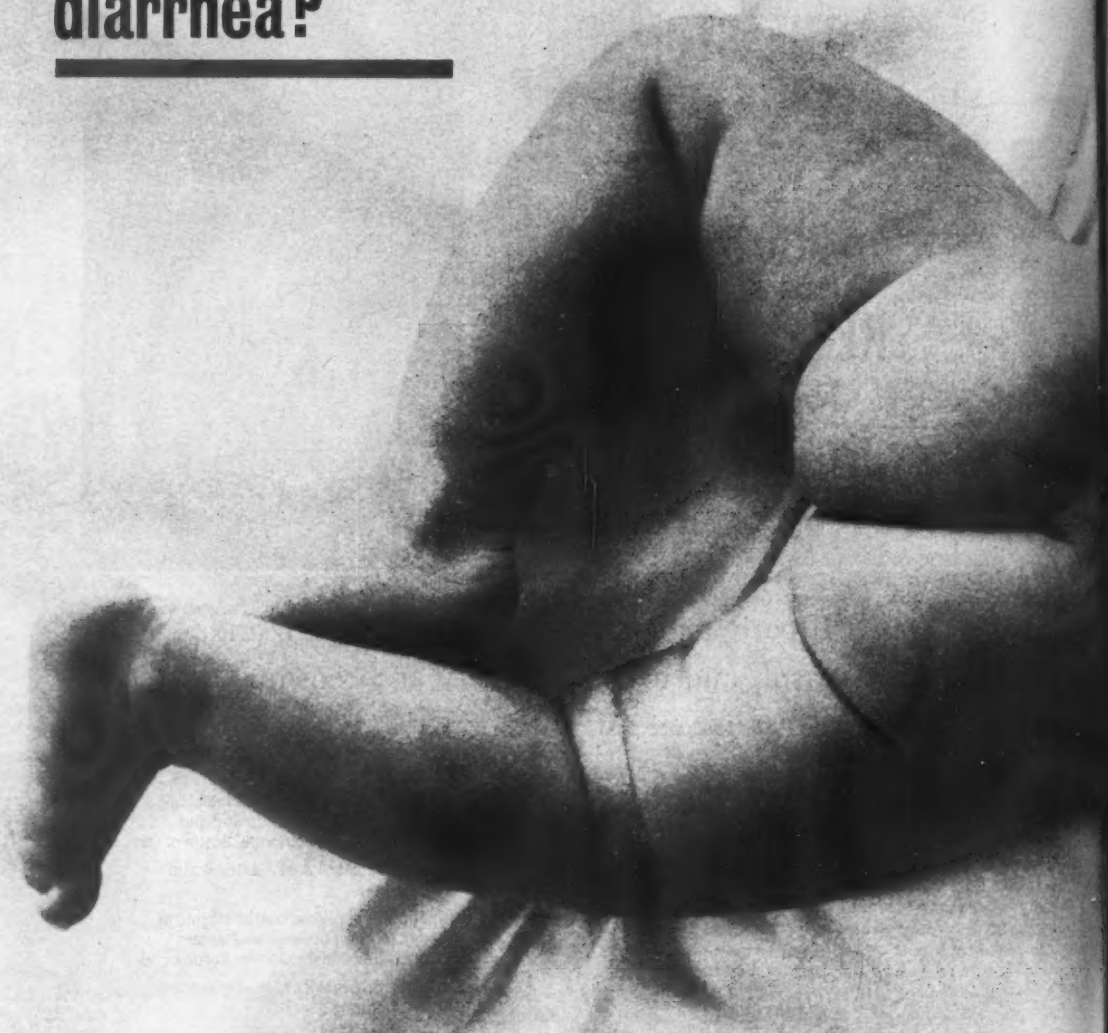
are opiates now outmoded in pediatric diarrhea?



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new Entoquel™ syrup

(thihexinol methylbromide)

the first pharmacologically-specific, non-narcotic antiperistaltic agent "apparently acts almost exclusively to inhibit gastrointestinal motor function"[1] and does not interfere with gastric secretion, digestive processes, or produce other undesirable atropine-like effects when given in recommended dosage.[2] **controls diarrhea as rapidly and effectively as opiates.** With Entoquel Syrup, symptoms were controlled within 24 hours in 88% of one group of 88 children and in 89% of a second group of 94—with relief achieved in most cases **within 12 hours.** "None of the 182 patients required hospital admission because of dehydration and electrolyte imbalance."[3] The antidiarrheal response was considered **excellent** or **good** in the large majority of 153 infants and children, including 31 of 41 in whom prior use of kaolin-pectin suspension had proved ineffectual."[4]

without the undesirable properties of opiates. ENTOQUEL is completely unrelated chemically to the opium alkaloids — it has no addictive or central depressant properties and does not produce undesirable atropine-like effects when administered in the usual therapeutic dosages.[2] In 153 patients, a mild flushing of the skin was the only side effect noted. This occurred in 4% of the total cases and could be eliminated by decreasing dosage.[4]

And when the diarrhea is bacterial in origin

Entoquel with Neomycin syrup

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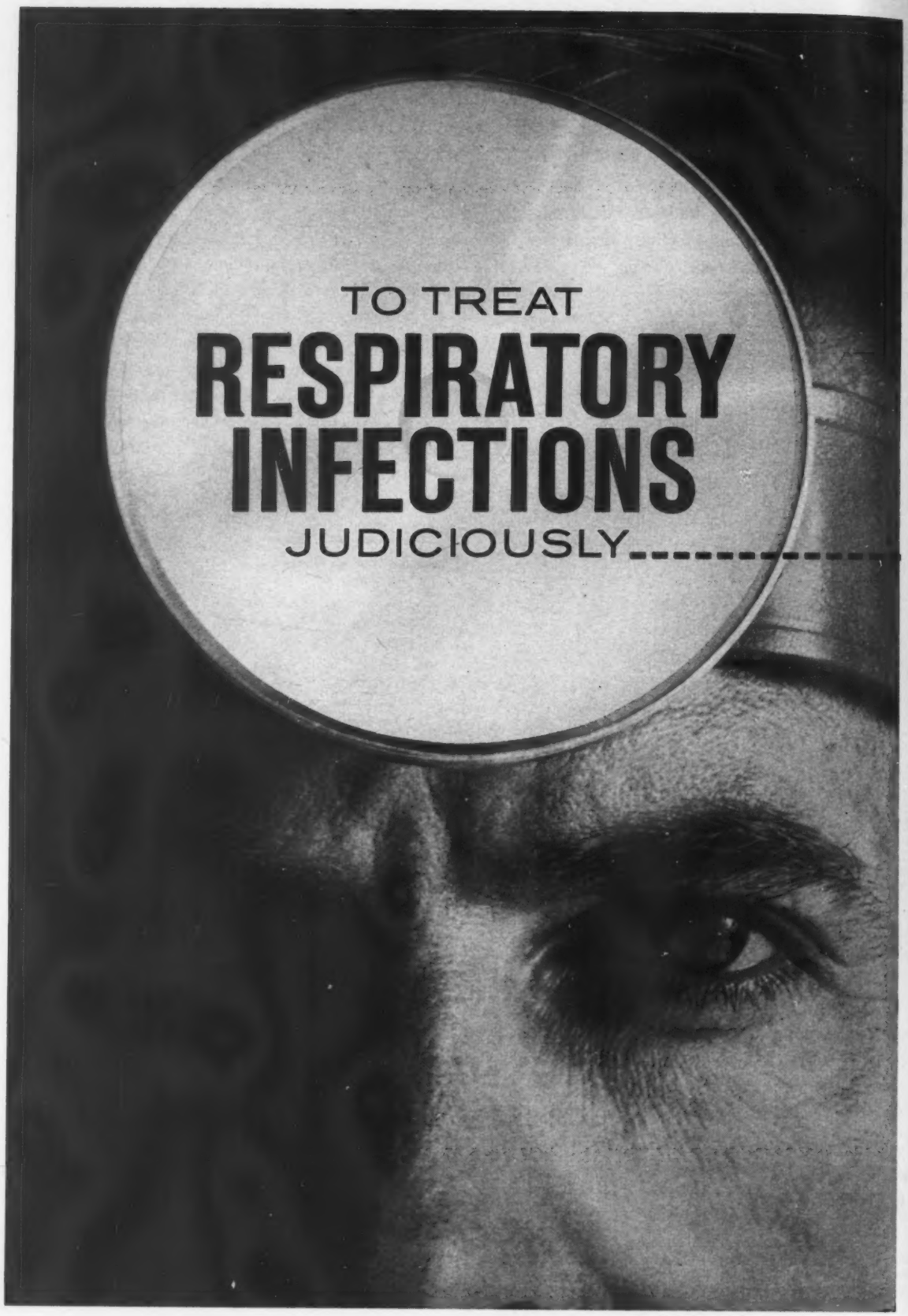
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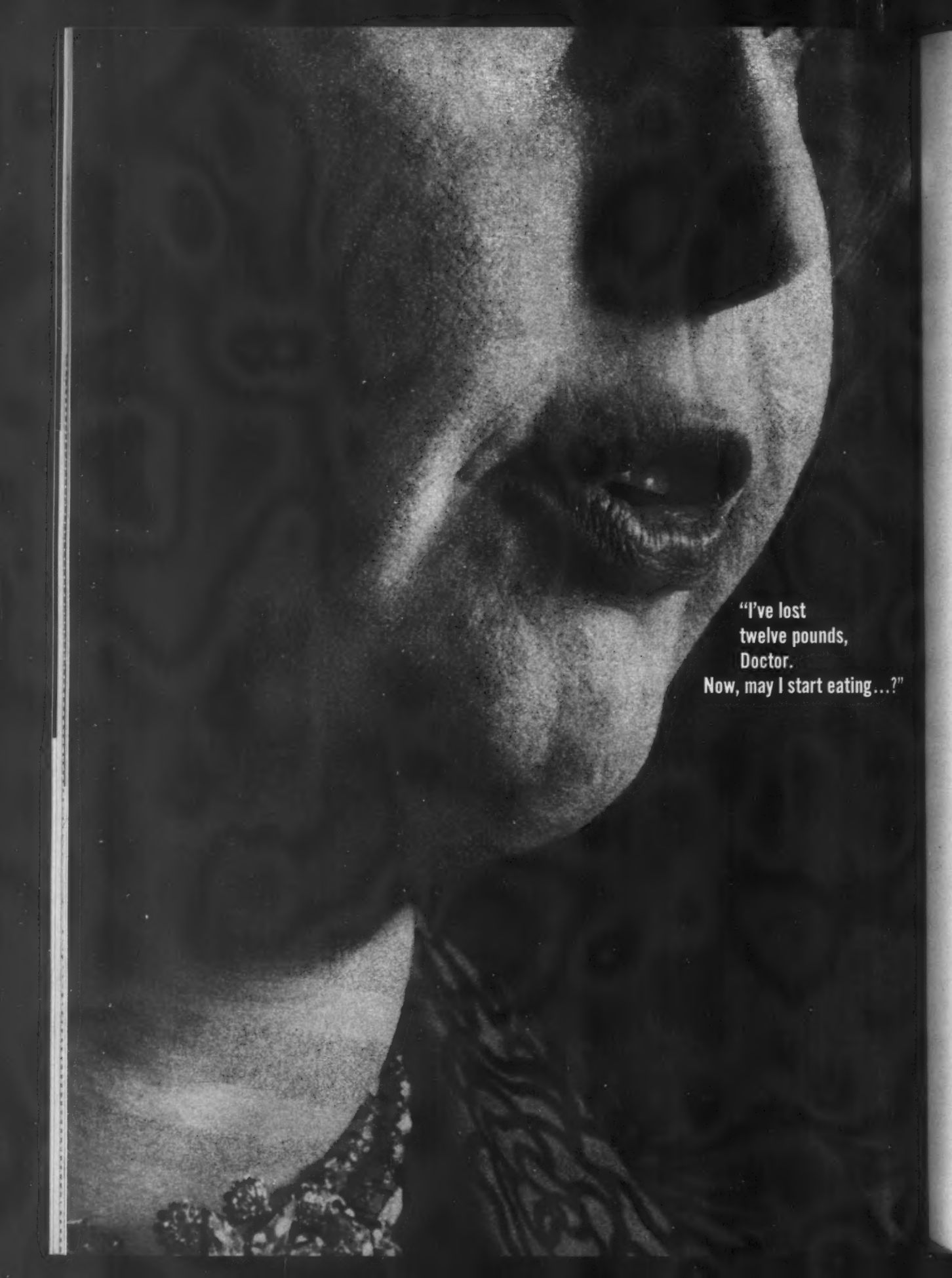
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twelve pounds,
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Now, may I start eating...?"

"crash diets" do not solve the basic patient problem: habitual overeating

In the treatment of chronic obesity, "fad diets" are not the answer. Your patients may suffer adverse somatic as well as psychic effects from alternating weight loss and gain.
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The process of eliminating pounds in the chronically obese should be gradual. To accomplish this, obviously, new patterns of eating must be established.

BAMADEX tablets help the patient be satisfied on a diet which will cause him to lose weight. BAMADEX tablets combine two specific agents to overcome the habitual overeating in the chronically obese... the outstanding appetite suppressant, d-amphetamine, balanced with the tranquilizer, meprobamate. BAMADEX tablets help the recalcitrant patient keep within his prescribed caloric limits. It does this by curbing between-meal hunger, fatigue, nervousness, insomnia, and dizziness, which may lead to failure in diet reduction.

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BAMADEX Tablets: *Each coated tablet (pink) contains: d-amphetamine sulfate, 5 mg.; meprobamate, 400 mg.* **dosage:** *1 tablet one-half to one hour before each meal. Higher dosage may be required in certain cases.*
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If she is not pregnant, and has previously had regular menstrual cycles, withdrawal bleeding will occur within a few days after PRO-DUOSTERONE (1 tablet q.i.d. for 3 days). In functional amenorrhea, regular menstrual cycles may often be restored.

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1. Hayden, G.E.: Am. J. Ob. & Gyn. *76*:271, 1958.

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the long run than several months that end when the patient gets fed up and leaves.

A plan like this would of course require good prospects for outpatient care after hospitalization, and here again the hospital would have to have a part in the responsibility to see that it was provided. If the hospital is to continue as the principal purveyor of medical care for tuberculosis patients, it can no longer reasonably concern itself only with those patients who willingly stay for the recommended period.

I do not deny that some small percentage of patients, like a small percentage of the total population, are genuinely recalcitrant and will not cooperate with any recommended course. For these, forcible isolation is probably the only solution. But many others would accept and follow through with outpatient treatment that was planned with them. And treatment that is less than ideal is better if it is completed than the best possible treatment if it is abandoned.

At the Arden House conference, one of the participants commented on the problem that arises because so many tuberculosis patients are in lower socioeconomic classes, while public health and medical professional people are chiefly from the middle class. He pointed out that the professional person often tries to impose his own ideals and aspirations upon the patient and is frustrated to get no response. Many of us, for instance, knowing the overcrowded, dilapidated, depressing (to us) homes some patients come from, feel that they ought to be happy to be in the nice clean hospital. We think they are ornery if they prefer to stay at home. It takes imagination, and a willingness to accept when we cannot imagine, to help patients toward a way to recovery, but success using chemotherapy as a public health tool depends upon it.

STATE PLANNING

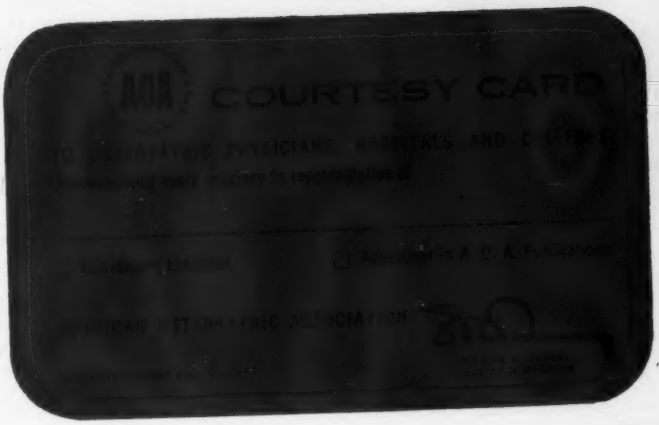
Patterns for providing treatment services for tuberculosis patients vary widely in the States. In a small group of States, none of the public tuberculosis hospitals is supported solely by the State, and in a few they all are. The most common pattern, however, is a combination of State hospitals and county or city hospitals. Whether they are State or local, hospitals may be under the health department, a separate hospital department, or under the welfare department. Clinic services come under equally varied auspices.

While efficient and effective treatment services are possible under many different organizational plans, the present situation in tuberculosis does call for coordination at the State level, in order to make sure that patients are treated no matter whether they live in low or high incidence areas, and also for the sake of economical operation. It seems important now to plan services according to reasonable caseloads. Obviously it is wasteful for several counties in a State to run tuberculosis hospitals in which many beds are unoccupied. Under a State plan, such counties can be encouraged to pool their resources, thereby saving both money and staff which can perhaps be diverted to outpatient services. In some areas of the United States, tuberculosis patients outside the hospital are too few to justify a monthly clinic in a single county. Even if county health departments can arrange for local physicians to give medical care, the State may need to see that laboratory services, perhaps X-ray facilities or interpretation or consultation, are provided. If local medical care is not available, the State may have to arrange for physicians to be brought in once a month to see patients.

The amount of direct service or financial assistance the State gives is not at issue. Any State health department should be able to serve in a coordinating capacity.

In a number of States, well-established precedents for intercounty cooperation enable the State health department to work out a State plan for tuberculosis treatment as easily as in States with completely centralized services. Where local autonomy is highly prized, however, a good deal of persuasion and convincing may be necessary. In this case, interpreting the advantages of banding together may have to be the job of citizens' groups such as the State tuberculosis association.

REMEMBER THE



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1. Macy, I. G.; Kelly, H. J., and Sloan, R. E.; with the Consultation of the Committee on Maternal and Child Feeding of the Food and Nutrition Board, National Research Council: The Composition of Milks, Publication 254, National Academy of Sciences and National Research Council, Revised 1953. 2. Brown, G. W.; Tuholski, J. M.; Sauer, L. W.; Minsk, L. D., and Rosenstern, I.: Evaluation of Prepared Milks in Infant Nutrition; Use of the Latin Square Technique, J. Pediat. 56:391 (Mar.) 1960.

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Current trends in infant mortality*

Alice D. Chenoweth, M.D.
Chief, Program Services Branch
Division of Health Services
and
Eleanor P. Hunt, Ph.D.
Assistant Chief, Program Analysis Branch
Division of Research
Children's Bureau

After two decades of declining rates, infant mortality in the United States rose from a record low of 26.0 deaths under 1 year per 1,000 live births in 1956 to 26.3 in 1957, to 27.1 in 1958.† Not since 1953-54 has a rate as high as 27.1 prevailed nationally. Provisional rates in 1959, and in the first 6 months of 1960, showed some decrease from the high levels of 1957 and 1958. Nevertheless, these rates—26.4 for 1959 and 25.9 for the first half of 1960—suggest that infant mortality is still elevated. They are considerably above levels to be expected on the basis of the generally downward trend in rate over the years 1950-57.

Reactions to this lack of progress in reducing infant mortality have varied from surprise to disbelief to a healthy skepticism regarding vital statistics. These have led us to examine available facts critically. In doing so we have become increasingly aware of the need for special State and local studies to follow up leads, not only from vital-records data, but from other community-wide sources of information as well.

During 1950-57 the annual reduction in rate on the average was 1.7 per cent. Data gathered also projected the trend established in those years to 1958, 1959, and 1960.

The comparison of the recorded rate with the projected average level indicates that in 1958 the infant mortality rate was some 7 per cent higher; in 1959, 6 per cent higher; and in 1960 (January-June) about equally so. On a 12-month basis for 1960 an excess, perhaps not so large, is likely.

Thus a gap, though a narrower one, remains in 1958-60 between prevailing infant mortality levels and the lower levels which would be consistent with the 1950-57 trend. The excess in rate in 1958 meant a loss of 18 additional infants per 10,000 live births; and in 1959, a loss of 15.

The excesses of infant mortality in the past 3 years over projected levels were larger in the postneonatal period (1-11 months) than in the neonatal period (under 28 days). The provisional neonatal and postneonatal rates for 1960, shown in the table on page A-167, are based on data for the first 5 months. Even when data are available for the 12 months of 1960, it seems likely that excess postneonatal mortality may be nearer 10 per cent than the 23 per cent shown in the table.

Neonatal mortality, on the basis of the same type of evidence, approximates in 1960 a level consistent with the trend during 1950-57. If confirmed by final figures for 1960 the elevation of neonatal mortality might be regarded as eliminated. The 1.1 per cent decrease in rate annually between 1950 and 1957 represents the smallest relative reduction in rate in any period of comparable length since 1936.

Widening differences in neonatal risks between white and nonwhite infants, and substantial differences among the several States, and between newborn in metropolitan and in other counties represent potentialities for reducing the neonatal death rate.

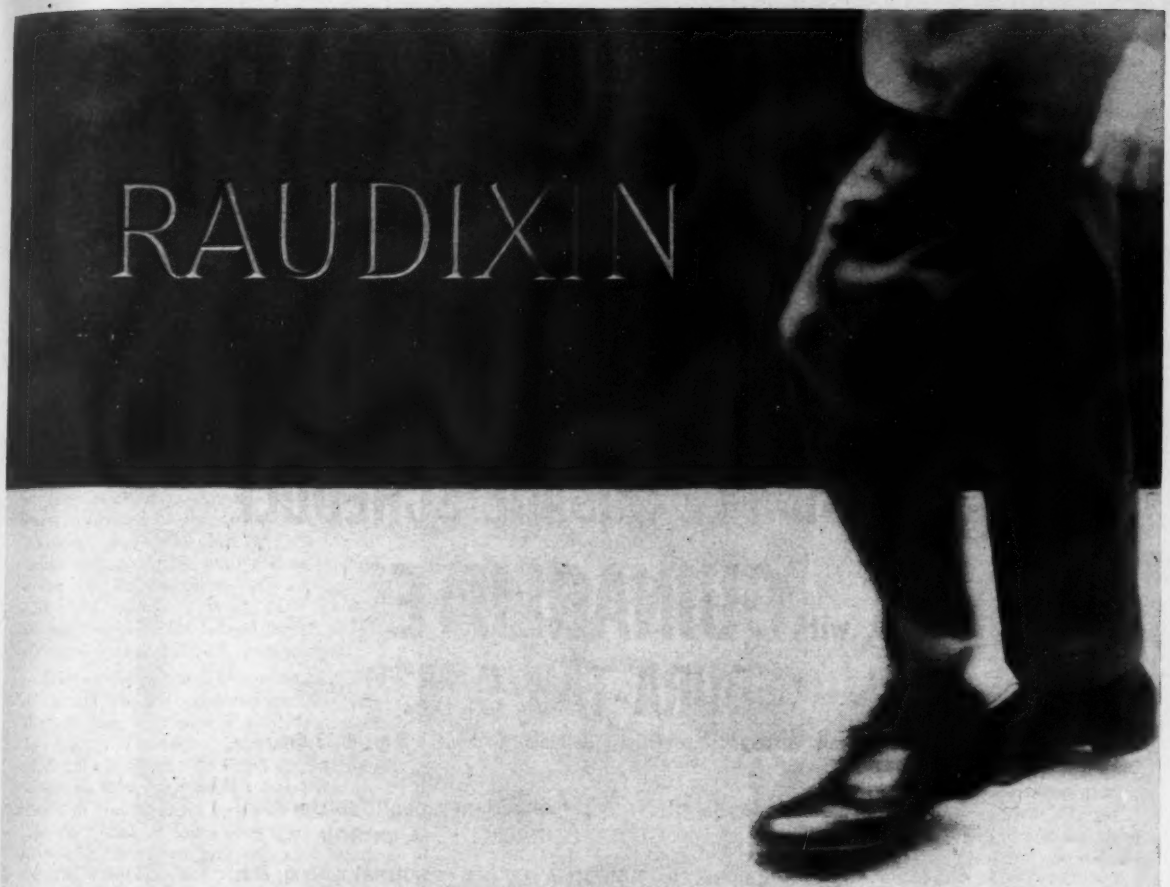
IMPACT ON INFANT POPULATION

In order to plan measures to promote more rapid reduction of infant mortality, identification of the groups of infants for whom risks are high is essential. Some clues are available from vital-records data of recent years.

Among infants less than a day old, reduction in mortality rate during 1950-57 was insignificant, though relatively large decreases in the rate were made from 1943 to 1950 (12.1 per cent in toto) and from 1936 to 1943 (23.2 per cent in toto). The mortality rate for

*Reprinted from *Children*, November- December 1960.

†The source of birth and death data in this report is the National Office of Vital Statistics.



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nonwhite infants less than a day old increased during 1950-57 by 1.4 per cent annually, the rise becoming evident as early as 1952.

The death rates for infants of 1 week to 3 months of age also dropped more slowly during 1950-57 than in previous periods. For infants of 1 to 3 weeks of age (7-27 days) the decrease in rate between 1950 and 1957 was 8 per cent, as compared with 45 per cent between 1943 and 1950; for those of 1 month to 3 months the drop was 10 per cent between 1950 and 1957, but 41 per cent from 1943 to 1950. In the latter age group, in 1958, the rate—4.2 deaths per 1,000 live births—was 14 per cent higher than the rate to be expected from the trend for that age group during 1950-57, a 2 per cent decrease in rate annually.

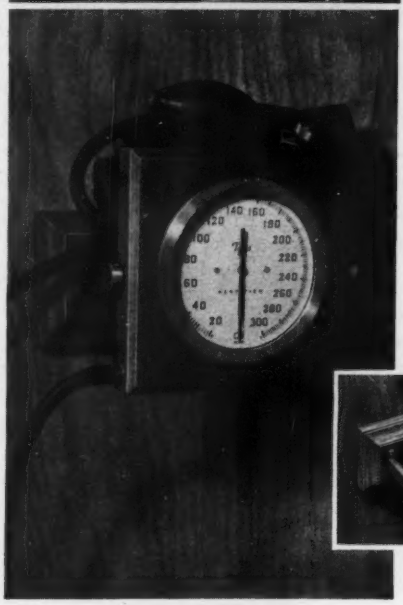
The nonwhite group showed much less improvement than the white group, although nonwhites had a higher mortality rate to begin with and so greater room for improvement. In fact, among nonwhite infants 1 week to 3 months of age no clearly defined trend of reduction during 1950-57 was evident.

During this period about 38 per cent of infant deaths occurred on the first day of life, and nearly 1 in 4 at ages 1 week to 3 months. Thus about 3 out of 5 infant deaths occurred at the ages in which there had been marked slowing down of the decrease in infant mortality. The fact that in these early age groups, in which the large proportion of infant deaths occurred, the death rates have failed to decline at the same pace as previously has had a strong deterrent effect in the overall reduction of infant mortality.

Reduction in mortality of infants of all ages in metropolitan counties during 1950-57 has been half as rapid as among infants in nonmetropolitan counties, 1.3 per cent decrease annually as compared with 2.7 per cent. Nonwhite infants in metropolitan counties for whom the infant death rate was 66 per cent higher than for white infants in 1950 and 92 per cent higher in 1958 showed no decrease in mortality during 1950-57, the rate remaining in the neighborhood of 40 deaths per 1,000 live births. In the nonmetropolitan counties, mortality rates for nonwhite infants were even higher and showed only slight and doubtful improvement.

In 1958 State infant mortality rates ranged from a low of 21.3 per 1,000 live births in Rhode Island to 41.0 in Mississippi. Rhode Island also had the lowest neonatal mortality rate, 15.7, while the maximum rate of 30.2 was recorded for the District of Columbia. For the United States as a whole, infant mortality was 27.1 and neonatal mortality was 19.5.

State differences were wider in the case of mortality of infants 1-11 months of age. The lowest postneonatal rate, 4.9 per 1,000, was for Connecticut; the highest, 16.1 in Mississippi. Still higher



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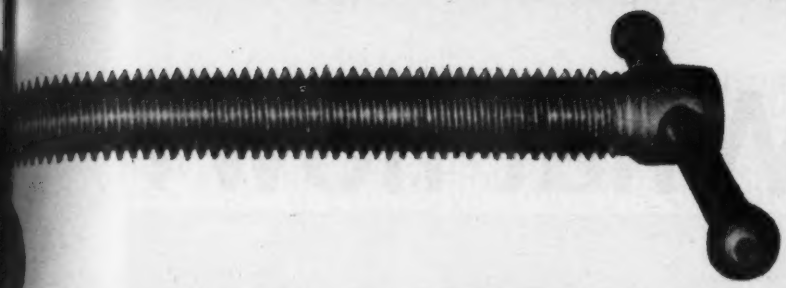

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INCREASES AND MAINTAINS BLOOD FLOW FOR 10-12 HOURS

STRIKING RELIEF OF PAIN Roniacol Timespan eases the pain and markedly increases activity range in intermittent claudication.[1] Action: specific dilation of peripheral vessels.[1] Result: Roniacol increases blood flow to ischemic extremities.[2-4] Improved circulation also helps reduce the danger of gangrene[5-7]—a common complication of obliterative vascular disease.

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RONIACOL TIMESPAN tablets are recommended for convenience of therapy in conditions associated with deficient circulation; e.g., peripheral vascular disease, including generalized arteriosclerosis, cerebral arteriosclerosis, varicose ulcers, decubital ulcers, chilblains, diabetic endarteritis, Meniere's syndrome and vertigo due to impaired cerebral circulation.

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SUPPLY—Tablets of 150 mg, in bottles of 50. When prolonged effects are not desired, prescribe Roniacol Tartrate tablets, 50 mg, or Roniacol Elixir, 50 mg per teaspoonful (5 cc).

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1. Cigarroa,. L G.: J. Internat. Coll. Surgeons *34*:442, 1960. 2. Teitel, L. H., *et al.*: Indust. Med. *29*:150, 1960. 3. Billow, B. W., *et al.*: Southwestern Med. *41*:286, 1960.

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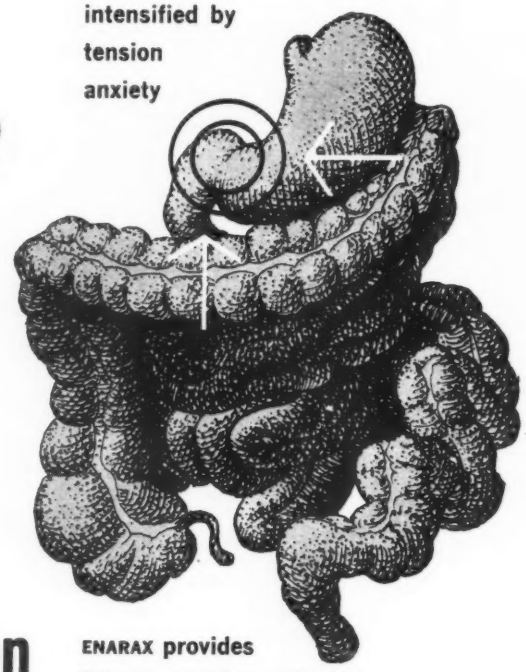

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References: 1. Hock, C. W.: Am. J. Gastroenterol. 34:293 (Sept.) 1960. 2. Leming, B. H., Jr.: Clin. Med. 6:423 (Mar.) 1959. 3. Data in Roerig Medical Department files.

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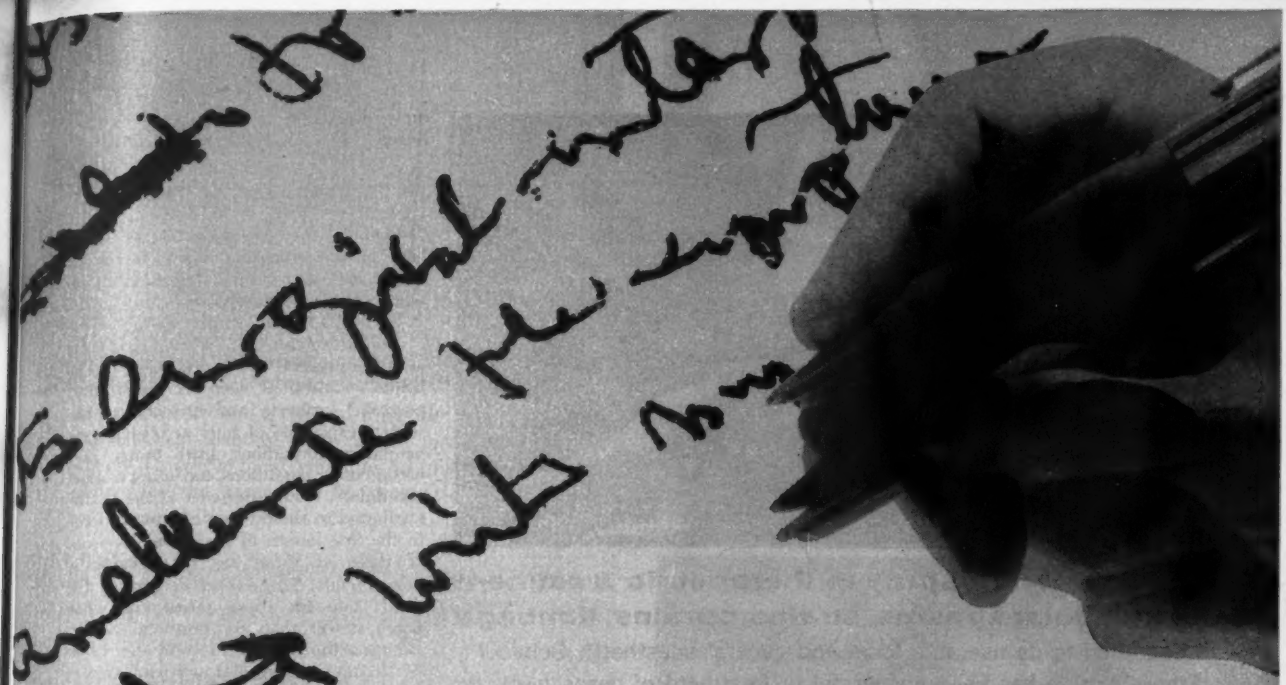

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References: 1. A.M.A. Council on Drugs: New and Nonofficial Drugs 1959, Philadelphia, J. B. Lippincott Company, 1959, p. 252. 2. Doshay, L. J.: J.A.M.A. *168*:1031, 1956. 3. Ayd, F. J.: Clin. Med. *6*:387, 1959. 4. May, R. H.: Am. J. Psychiat. *116*:360, 1959.

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MAY 26, 27, 1961

Tentative Program Schedule

Friday	8:00-9:00	Registration
	9:00-9:30	Continental Breakfast for Registrants (in Exhibit Hall)
	9:30-10:20	Dr. David Patriquin
	10:20-11:10	Dr. Charles L. Naylor
	11:10-12:00	Dr. J. Milton Zimmerman
	12:00-1:30	LUNCH
	1:30-2:00	Educational Film
	2:10-3:00	Dr. Roy J. Harvey (Evaluation of the Physical Examination)
	3:00-3:50	Dr. John L. Charlton, Jr. (Clinical Management of Toenail Problems)
	3:50-4:40	Dr. David Patriquin
	6:00-7:00	HOSPITALITY HOUR—THE INN
	7:00-9:00	BANQUET
	9:00-12:00	DANCING AT THE LODGE
Saturday	8:30-9:00	Continental Breakfast for Registrants (in Exhibit Hall)
	9:00-9:50	Dr. Charlton (Common Foot Problems)
	9:50-10:40	Dr. Harvey
	10:40-11:30	Dr. Patriquin
	11:30-12:20	Dr. Zimmerman

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VIRGINIA OSTEOPATHIC MEDICAL ASSOCIATION

rates were recorded for the Virgin Islands, 20.4, and Puerto Rico 26.9

CAUSES OF DEATH

The tabulated causes of deaths give some help in understanding recent trends in infant mortality, since they identify to some extent the morbidity groups with stationary or rising death rates.

About two-thirds of all infant deaths are from prenatal and natal causes, which include conditions such as immaturity, postnatal asphyxia and atelectasis (imperfect expansion of lung at birth), congenital malformations, birth injury, and certain other conditions, including hyaline membrane. Ninety per cent of the deaths attributed to these cause categories occur in the first month of life; about two out of three of these are of prematurely born infants. Progress in decreasing the death rate for these causes has been much slower than for postnatal causes. Between the periods 1950-53 and 1954-57 the rate for prenatal and natal causes, 18.6 per 1,000 live births, was reduced only 4.3 per cent, while for postnatal causes the reduction in rate was 10.3 per cent—from 6.8 to 6.1. Among nonwhite infants the rate for prenatal and natal causes increased slightly, from 22.5 to 22.7.

While in general during 1950-57 decrease occurred in infant mortality from postnatal causes—such as certain infectious and parasitic diseases, diseases of the digestive system, and accidents—death rates from infections of unidentified types showed small but continuing increases. These included: pneumonia of the newborn, which increased in rate per 100,000 live births 5 per cent between the periods 1950-1953 and 1954-1957, primarily in the nonwhite group; acute upper respiratory infection, bronchitis, and related infections, which increased 6 per cent; meningitis, except meningococcal and tuberculous, 5 per cent; "other infections of the newborn," 53 per cent; and septicemia and pyemia, 48 per cent. Jointly these infections during 1950-53 accounted for 5,159 deaths annually, or 137 per 100,000 live births. During 1954-57 the annual toll increased to 6,248 infant deaths, or 152 per 100,000 live births. Had the death rate for these causes decreased at about the pace of the death rate for infectious and parasitic disease as a whole, the lives of approximately 2,500 infants annually in 1954-57 would have been spared.

HYPOTHESES FOR STUDY

While we know something about the ages at which infants have been dying, the places where they have been dying, and the chief causes of death, we need to know much more before we can outline a control program. State and local studies are needed in which clinicopathologic data, collected and evaluated by medical committees, and vital records

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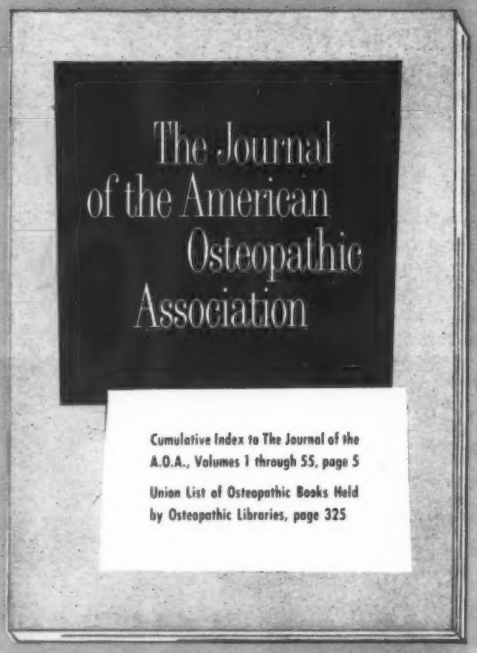
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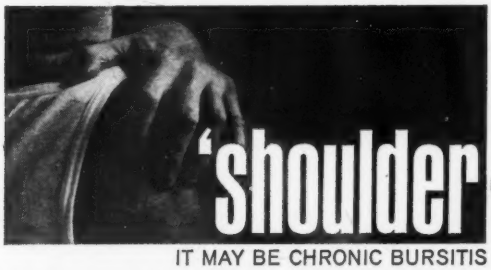

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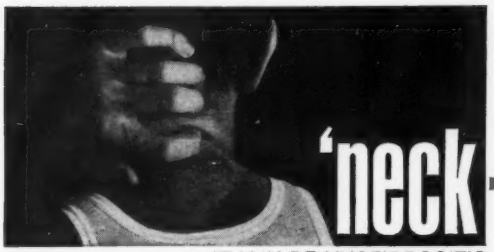

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References: 1. Cohen, A., et al.: J.A.M.A. 165:225, 1957. **2.** Spies, T. D., et al.: J.A.M.A. 159:645, 1955. **3.** Stecher, R. M.: Panel Discussion, Ohio M. J. 52:1037, 1956.

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References: (1) Smigel, J. O.; Lowe, K. J.; Hosp, P. H., and Gibson, J. H.: M. Times *86*:1521-1526 (Dec.) 1958. (2) Napp, E. E., and Donnenfeld, A. M.: J. Am. Geriatrics Soc. *8*:858:860 (Nov.) 1960. (3) Broders, A. C., Jr.: Am. J. Digest. Dis. *2*:483-486 (Sept.) 1957.

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(1) Hootnick, H. L.: Jnl. Amer. Ger. Soc., 4:1021-1030, 1956. (2) Cass, L. J. and Frederik, W. S.: Jnl. Lancet, 73: 414-416, 1953. (3) Marshall, W.: So. Dak. J. Med. & Pharm. 9:151:153, 1956.

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data can be correlated with information about the mother's health, the family's level of living, and the medical services provided to the mother and infant.

Some of the questions needing answers are:

To what extent is the rather stationary rate on the first day of life during the 1950's a result of more nearly complete birth and death registration, particularly of very small infants? • To what extent is the rising death rate of the first day for the nonwhite group related to an increase in incidence of prematurity? • While prematurity among white infants decreased during the 1950's from 7.2 per cent to 6.8 per cent in 1958, it apparently increased in the nonwhite group from 10.4 per cent in 1950 to 12.9 per cent in 1958.

During 1950-58 nearly a million nonwhite persons left the South, going particularly to industrial and commercial centers in other geographic areas. In general this migration had the effect of increasing hospitalization for delivery, and perhaps of adding to the completeness of registration of infant deaths and premature births, providing truer, though higher, estimates of mortality.

Data from the District of Columbia illustrate the effects in large cities of changes in population since 1950. Though the metropolitan area has grown by one-half million since 1950, the central city contributed only 5,000 to that increase. Though the proportion of white to nonwhite births changed little in the entire metropolitan area—about 3 per cent increase in nonwhite births between 1950 and 1957—the picture was entirely different in the core city, where among residents, white births dropped from 56 per cent to 35 per cent and nonwhite births rose from 44 per cent to 65 per cent. In suburbia the percentage of white births rose from 90 per cent to 92 per cent; the nonwhite dropped from 10 per cent to 8 per cent.[1]

What proportion of premature births and of infant deaths are associated with lack of prenatal care? • Again the District of Columbia provides an example. In 1952, 30 per cent of the births at the D.C. General Hospital, the public hospital, were without prenatal care; by 1956 the percentage without prenatal care had risen to 47 per cent and it remained at that level in 1957 and 1958. Of the women delivered at the D.C. General Hospital in 1956, the neonatal mortality for those without prenatal care was 41.6. (In the District as a whole in 1956 it was 23.9 for the total population; for the nonwhite population, 28.9.) In 1957, when 12.2 per cent of the births at the hospital were premature, 21.5 per cent of the mothers who had not had prenatal care gave birth to premature babies, as compared with 10.2 per cent of the mothers who had had prenatal care.[1]

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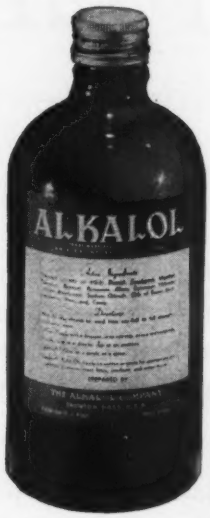

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Neonatal	1957	1958	1959	1960 (Jan.-May)
Per cent excess of recorded over projected rate	+1.6%	+4.8%	+3.8%	+1.1%
Recorded rate	19.1	19.5	*19.1	*18.4
Projected rate assuming annual percentage reduction prevailing in 1950-57 (1.1%)	**18.8	18.6	18.4	18.2
Postneonatal				
Per cent excess of recorded over projected rate	+2.9%	+11.8%	+10.6%	+23.4%
Recorded rate	7.2	7.6	*7.3	*7.9
Projected rate assuming annual percentage reduction prevailing in 1950-57 (3.3%)	**7.0	6.8	6.6	6.4

*Provisional.
**Estimate of the expected rate in 1957 pursuant to trend, 1950-57.

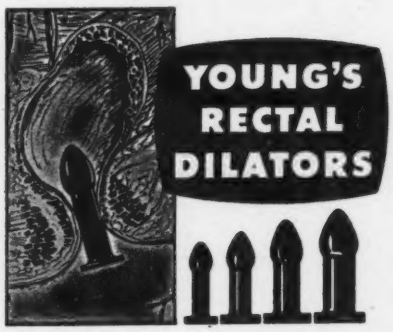
What has been the effect on infant mortality of the one-third increase in number of infants born out of wedlock in the United States—from 141,600 in 1950 to 208,700 in 1958? • What part, if any, of the increased mortality from "other infections of the newborn," septicemia and pyemia, and several other categories of infection of undefined etiology, is associated with hospital-acquired staphylococcal disease? • What part, if any, did inadequacy of facilities and manpower for maternity care play in the infant mortality rates?

This last question seems especially relevant since the great majority of births today take place in hospitals—98.2 per cent of white births and 81.1 per cent of nonwhite births in 1957.

Data from the American Hospital Association show that since 1946 the number of births has increased faster than the number of hospital bassinets.[2] Since bassinets and maternity beds can be presumed to be about equal in numbers, does this mean that in the Nation as a whole there is a shortage of maternity beds? Or, since hospital stay has been shortened in recent years, has the slower increase in beds been sufficient? Have hospital stays in maternity cases, perhaps, become too short?

Between 1946 and 1957 the stay for all patients in general hospitals decreased from an average of 9.1 to 7.6 days, reflecting recent scientific advances in medicine and more specific and more intensive therapy. For maternity patients the average length of stay in 1957 was even shorter—4.5 days.[3] In some large public hospitals the stay for some patients was as short as 24 to 48 hours. In such instances the lag in growth of facilities, lack of personnel, and high cost have probably worked together to shorten the stay in the hospital.

Adequacy of maternity beds depends also not only on total number of beds



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1. Haden, R.L., et al.: Ann. N.Y. Acad. Sc. 49:641 (May 11) 1948.
2. Cheraskin, E.: J. Am. Dent. Assn. 58:17 (April) 1959.

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but on their distribution. With the rapid changes of population in central cities the maternity wards of many public hospitals in large cities are reported to be overcrowded, while the maternity census in central city private hospitals is going down and in suburban hospitals is rising.

Medical manpower has not kept pace with increasing births. Though the number of physicians in private practice is increasing, the population growth has been even greater, so that the ratio of physicians to population has been declining. In spite of the increase in filled internships, the disparity between the number of available intern positions and the number of graduates of American medical schools has been growing steadily larger each year.[4]

"Physicians for a Growing America," the report of a consultant group on medical education to the Surgeon General of the Public Health Service, calls the maintenance of the present ratio of physicians to population "a minimum essential to protect the health of the people of the United States," and states that to achieve this the number of physicians graduated annually by schools of medicine and osteopathy must be increased from the present 7,400 a year to some 11,000 by 1975.[5] In 1959 a total of 8,269 physicians were licensed to practice for the first time in the United States.[6]

What about nurses?

Though there was an 87 per cent increase in the number of nurses employed by general hospitals between 1946 and 1959, the size of the increase is offset by the fact that in 1959 more than one-fifth of the professional nurses in general hospitals were part-time workers who were not likely to relieve the nursing shortage in some of the more critical personnel areas of the hospital such as the night shift in the nursery.[7]

The growth in the number of practical nurses and auxiliary workers in general hospitals has been more rapid than the increase in professional nurses. Whereas in 1946 the ratio of professional to nonprofessional nurses in general hospitals was about five to three, by 1959 the ratio was reversed in favor of the nonprofessional nursing staff to approximately one professional nurse to 1.1 practical nurse and auxiliary worker. One might seriously question whether quality of care has been affected by this change in the nursing staff of hospitals.

Are community programs of services for mothers and infants adequate in coverage and in content? • Between 1950 and 1957 services under maternal and child health programs in the United States have increased some. The proportion of mothers receiving medical-clinic services rose from 48 per 1,000 live births to 56 per 1,000; the proportion of mothers receiving public health nursing services increased from 71 per 1,000 births to 104 per 1,000; the proportion of infants receiving nursing services changed little, from 143 per 1,000 to 156. Infants attending well-child conferences were about 80 per 1,000 in 1950; 127 per 1,000 in 1957. Service rates have increased some since 1957, but not enough to fully offset the rise in infant mortality. Should the growth of these services be speeded up? Are they increasing where they are most needed? Are additional types needed?

Central cities face especially difficult problems in financing needed public services not only for health, but also for welfare, housing, and education—all areas relevant to the survival and health of infants. Migration of low-income families into, and of middle-income families out of cities, has resulted in greater need for public services within the cities and a reduced tax base to support them.

District of Columbia material is again illustrative. In a board of trade study in 1958 the median income for suburbia was $7,940; for the District, $5,660; for the area as a whole, $6,860. A study made by the Census Bureau for the

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District of Columbia in 1956 revealed 20.4 per cent of families with income less than $3,000 a year—11.6 per cent of the white families, 31 per cent of the nonwhite; 46.8 per cent with incomes below $5,000—30.8 per cent of the white, 66.3 per cent of the nonwhite.[1]

For the past several years, according to birth certificate reports, only 40 per cent of births to resident mothers in the District of Columbia were attended by private physicians while 60 per cent were hospital staff cases. Although the number of births to residents changed little between 1950 and 1958, the number occurring at the city hospital increased by some 23 per cent. In 1958 more than 30 per cent of these births occurred in the city hospital. These births represented 4 per cent of the white births and about 47 per cent of the nonwhite births in the District.

With a decreasing ability to tax and an increasing need for public services and with the ratio of physicians to population declining, cities face a serious problem of attacking the weak spots behind the mortality figures. This calls for more efficient use of medical and nursing manpower.

But no matter how skilled physicians, nurses, and other health workers are, they alone cannot speed the decline of infant mortality. Real progress will require the coordinated efforts of representatives of the fields of health, welfare, education, housing, and industry to improve conditions in families in which poor nutrition, poor housing, low levels of employment, and a large number of children combine to create a multiplicity of overwhelming problems.

1. Oppenheimer, Ella: Population changes and perinatal mortality. (Paper presented at American Public Health Association, October 1959, to be published.)

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3. U.S. Department of Health, Education, and Welfare, Public Health Service: Health statistics from U.S. national health survey; hospitalization, patients discharged from short-stay hospitals, United States, July 1957-June 1958. Public Health Service Publication No. 584-B7. 1959.

4. American Medical Association, Chicago: Number of physicians classified as to type of practice (table 3). *In* the American Medical Directory, 20th ed., 1958.

5. U.S. Department of Health, Education, and Welfare, Public Health Service: Physicians for a growing America; report of the Surgeon General's consultant group on medical education. Public Health Service Publication No. 709. 1959.

6. Fifty-eighth annual presentation of licensure statistics by the Council on Medical Education and Hospitals of the American Medical Association: Activities of the Federation of State Medical Boards of the United States. *Journal of the American Medical Association*, May 28, 1960.

7. Hospital statistics. *Hospitals*, August 1, 1960 (part 2).

Books received

Books received for review during the period from January 5 to February 5 are listed below. Reviews will be published as space permits.

THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE. A Text in Applied Physiology. Edited by Charles Herbert Best, C.B.E., M.A., M.D., D.Sc. (Lond.), F.R.C.S., F.R.C.P. (Canada), Professor and Head of Department of Physiology, Director of the Banting-Best Department of Medical Research, University of Toronto; and Norman Burke Taylor, V.D., M.D., F.R.S. (Canada), F.R.C.S. (Edin.), F.R.C.P. (Canada), M.R.C.S. (Eng.), L.R.C.P. (Lond.), Professor of the History of Medicine and Medical Literature, University of Western Ontario, London, Canada; formerly Professor of Physiology, University of Toronto. Ed. 7. Cloth. Pp. 1554, with illustrations. Price $16.00. The Williams & Wilkins Company, 428 East Preston Street, Baltimore 2, 1961.

GOOD ENGLISH FOR MEDICAL WRITERS. By Ffrangeon Roberts, M.A., M.D., F.F.R. Cloth. Pp. 179. Price $4.50. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1960.

ANAESTHETIC ACCIDENTS. The Complications of General and Regional Anaesthesia. By V. Keating, M.B., B.Ch., D.A., F.F.A. R.C.S., Consultant Anaesthetist to the Manchester Regional Hospital Board (Burnley and District); formerly Consultant Anaesthetist and Lecturer in Anaesthetics, University College

PROSTALL® for Prostatic Hypertrophy

FACTS FACTS FACTS

FACT 1. Prostatectomy can often be avoided by expectant medical treatment.[1]

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DOSAGE: 2 capsules t.i.d. after meals for two weeks, thereafter 1 capsule t.i.d. for at least three months. Repeat if symptoms recur.

1. Chapman, T.L., Expectant treatment of benign prostatic enlargement, Lancet 2:684, 1949.
2. Hinman, F., The obstructive prostate, J.A.M.A. 135:136, 1947.
3. Feinblatt, H.M., and Gant, J.C., Palliative treatment of benign prostatic hypertrophy, J. Maine M.A. 49:99, 1958.
4. Ibid. #3, Southwestern Med. 40:109, 1959.

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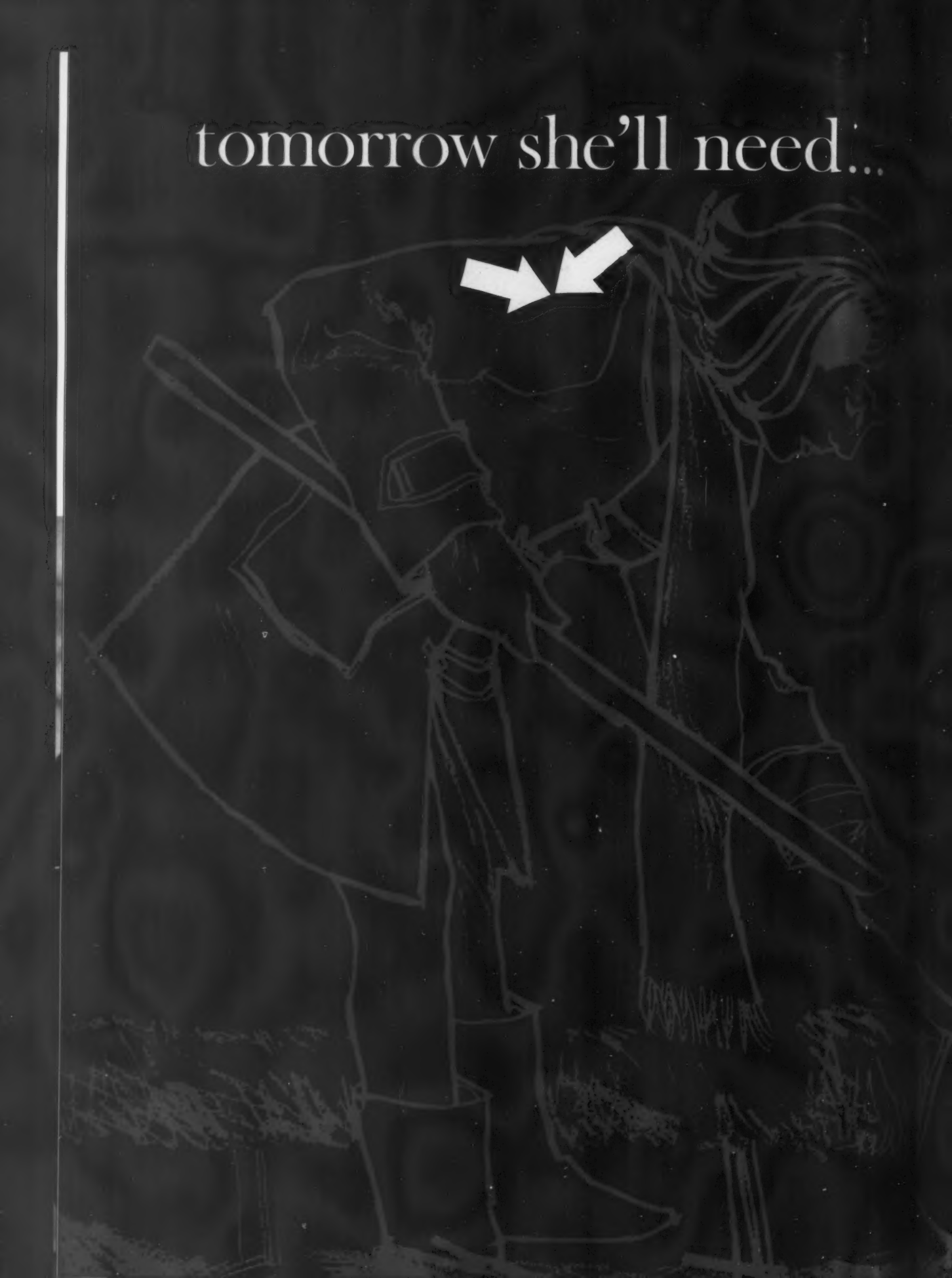
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Adults: 4 tablets, 8 chewable tablets or 8 teaspoonfuls (2 Gm) initially followed by 2 tablets, 4 chewable tablets or 4 teaspoonfuls (1 Gm) daily thereafter.

Children

Body Weight	Initial Dose	Daily Dose Every 24 Hours Thereafter
20 lbs	0.5 Gm 1 tablet, 2 chewable tablets, 2 teaspoonfuls	0.25 Gm ½ tablet, 1 chewable tablet, 1 teaspoonful
40 lbs	1 Gm 2 tablets, 4 chewable tablets, 4 teaspoonfuls	0.5 Gm 1 tablet, 2 chewable tablets, 2 teaspoonfuls
80 lbs	2 Gm 4 tablets, 8 chewable tablets, 8 teaspoonfuls	1 Gm 2 tablets, 4 chewable tablets, 4 teaspoonfuls

DOSAGE (Pediatric Drops)

For moderate to severe infections:
2 drops (25 mg) per pound body weight followed by 1 drop (12.5 mg) per pound body weight daily thereafter. Continue therapy for 5 to 7 days or until patient is asymptomatic for at least 48 hours.

For mild infections: Less severe infections will usually respond to one-half the above dosage.

Caution: The usual precautions in sulfonamide therapy should be observed, including the maintenance of an adequate fluid intake. In the event of headache, nausea, vomiting, urticaria, rash, fever or hematuria, the use of the drug should be discontinued. When Madribon is used intermittently or for prolonged periods, blood counts should be performed to determine whether blood dyscrasias have occurred. The use of the drug should be stopped immediately if alterations in the hematopoietic system are observed. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Madribon should not be administered to patients with a history of adverse reactions to sulfonamide therapy.

Madribon, like most sulfonamides and certain other drugs, is probably contraindicated in premature infants—and newborn infants for the first week of life—because of underdeveloped enzyme systems and immature liver and renal functions.

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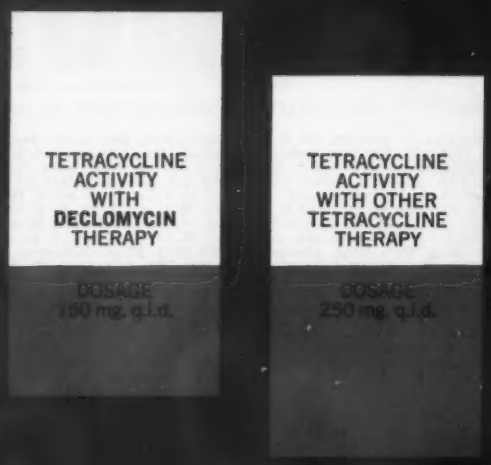
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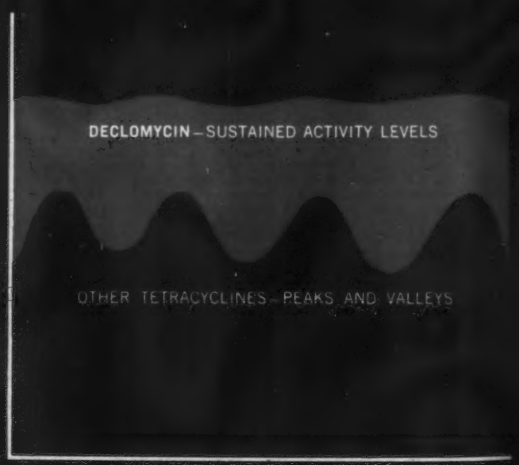

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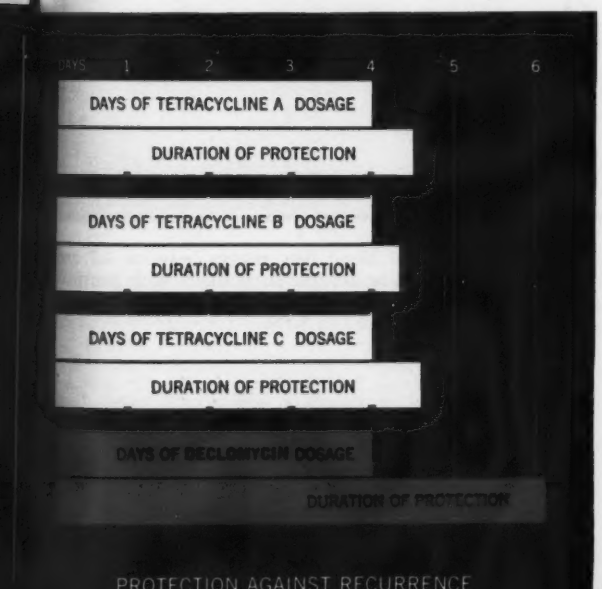
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SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

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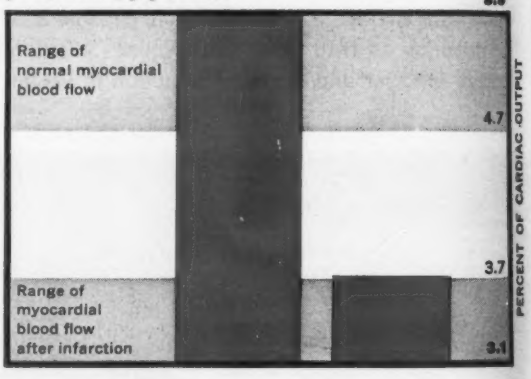
Radioisotopic studies* shed new light on coronary artery disease...

Objective finding – in untreated patients:

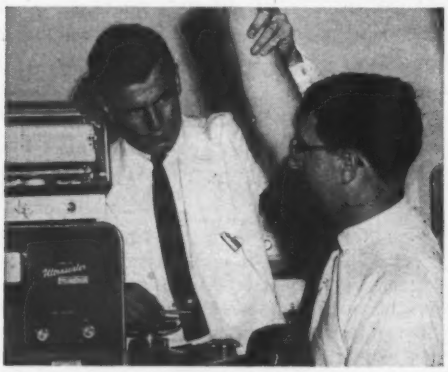
In patients with coronary artery disease who receive no therapy, "Myocardial blood flow is significantly... decreased...."[1]

Myocardial blood flow in normal and postcoronary patients



Normal myocardial blood flow ranges between 4.7 and 5.5% of total cardiac output. In patients with previous infarction, myocardial blood flow is significantly decreased to a range of 3.1 to 3.7%.

***Important new studies**[1,2] at the University of Oklahoma School of Medicine utilized advanced radioisotopic techniques to measure myocardial blood flow in normal and arteriosclerotic humans.



The method consists of placing this specially designed scintillation detector on the chest wall where it can monitor the passage of radioactive material through the heart and through the myocardial circulation. The new technique appears to be ". . . simple, repeatable, rapid, and nontraumatic. . . ."[2]

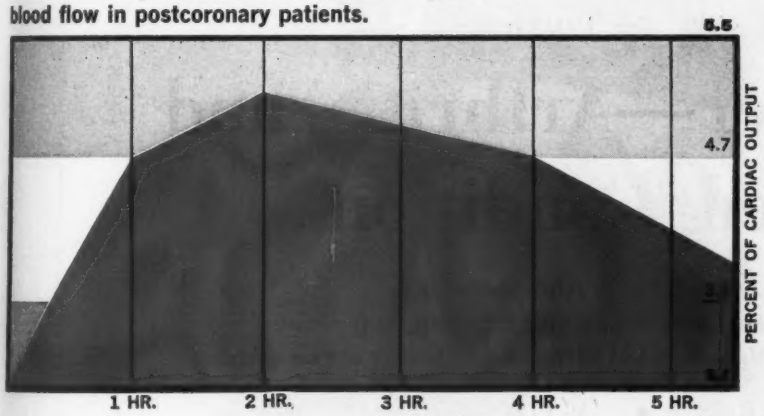
The results objectively confirm earlier observations[3,4] that the significant increases in myocardial blood flow produced with PETN (Peritrate) in arteriosclerotic patients lasts as long as five hours after administration.

...reaffirm that Peritrate increases myocardial blood flow

Objective finding – in Peritrate-treated patients:

Peritrate "...produces a prolonged increase in myocardial blood flow beginning within one hour after ingestion and lasting up to five hours, without producing changes in cardiac output, in patients with arteriosclerotic heart disease with previous infarction."[1]

Peritrate safely increases and sustains myocardial blood flow in postcoronary patients.



Within one hour after administration of Peritrate 20 mg., myocardial blood flow returns to near normal range without significant change in cardiac output, blood pressure or pulse rate.

References: 1. Johnson, P. C., and Sevelius, G.: Measurement of myocardial blood flow, J.A.M.A. *173*:1231 (July 16) 1960. 2. Sevelius, G., and Johnson, P. C.: J. Lab. & Clin. Med. *54*:669 (Nov.) 1959. 3. Russek, H. I., *et al.*: Circulation *12*:169 (Aug.) 1955. 4. Essex, H. E., *et al.*: Am. Heart J. *19*:554, 1940.

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Hospital of the West Indies; Senior Specialist in Anaesthetics, Royal Army Medical Corps. Ed. 2. Cloth. Pp. 288, with illustrations. Price $5.50. The Yearbook Publishers, Inc. 200 East Illinois Street, Chicago, 1961.

Modern Surgical Monographs. NEUROVASCULAR COMPRESSION SYNDROMES OF THE SHOULDER GIRDLE. By Louis M. Rosati, M.D., Professor of Clinical Surgery, New York University Post-Graduate Medical School; Attending Surgeon, Bellevue and University Hospitals, New York; and Jere W. Lord, M.D., Professor of Clinical Surgery, New York University Post-Graduate Medical School; Attending Surgeon, Bellevue and University Hospitals, New York. Cloth. Pp. 168, with illustrations. Price $7.25. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, 1961.

THE CHEMISTRY OF IMMUNITY IN HEALTH AND DISEASE. By David W. Talmage, M.D., Department of Medicine, University of Colorado Medical Center, Denver, Colorado; and John R. Cann, Ph.D., Department of Biophysics, University of Colorado Medical Center, Denver, Colorado. Cloth. Pp. 178, with illustrations. Price $5.75. Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1961.

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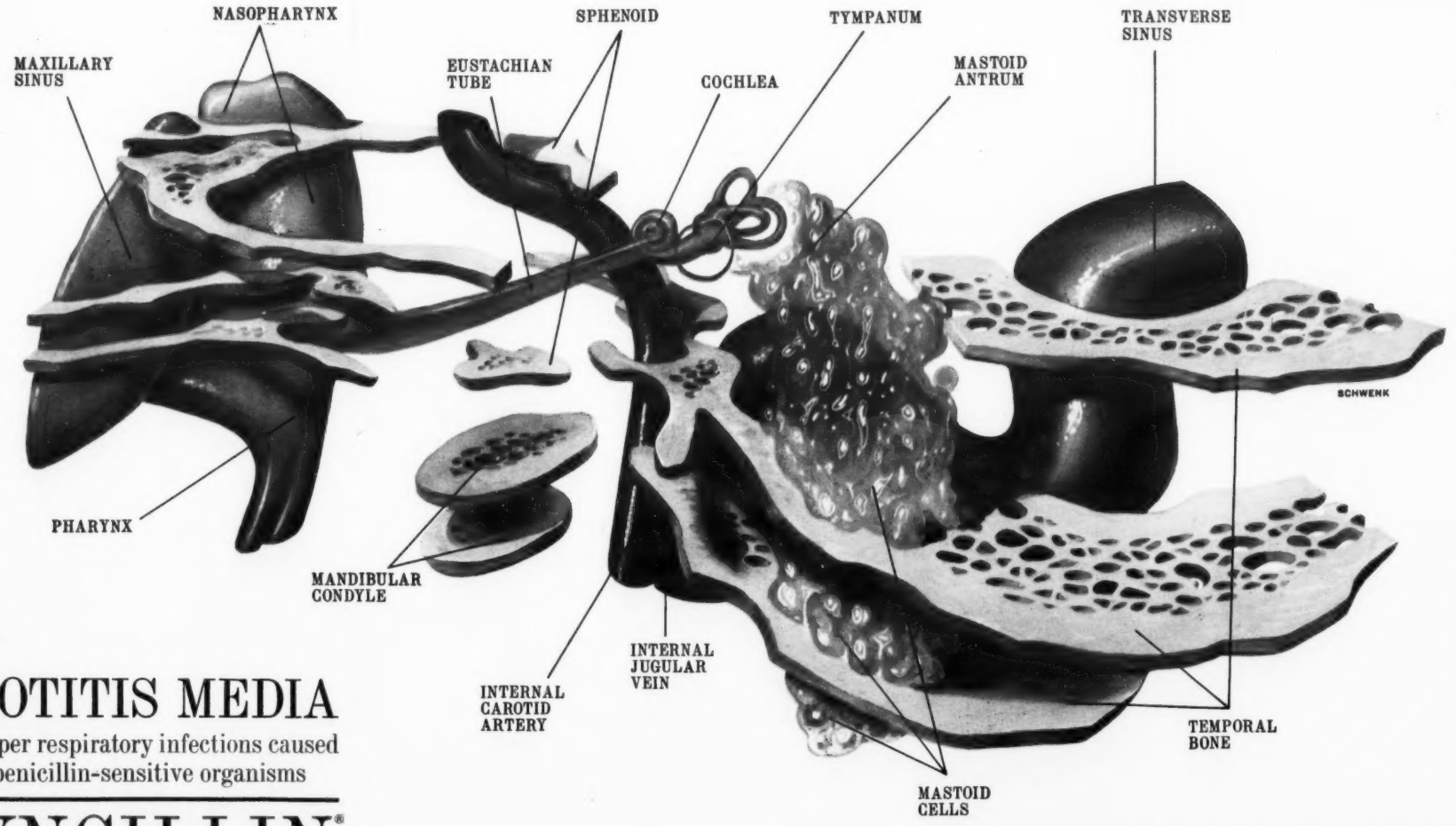

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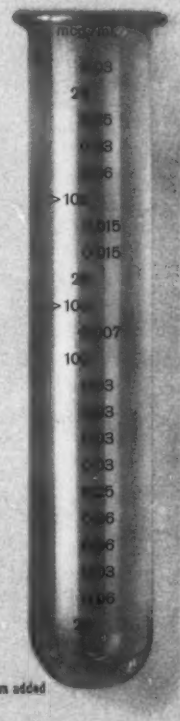

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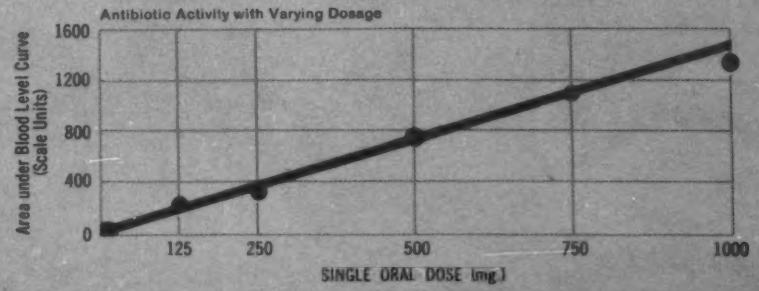

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Outlook for gains in longevity after age 60*

Since 1929-31, the expectation of life at age 60 has increased one year among white men and about three years among white women. These increments are attributable largely to decreases in the mortality from the infectious diseases—notably tuberculosis and pneumonia—and accidents. Some further gains will undoubtedly accrue from continuing advances in the control of the infections, but for the most part future gains will depend upon reductions in mortality from the degenerative diseases. The study shows the number of years that would be added to the present expectation of life of white persons at the older ages if the mortality rates from certain important causes of death were to decrease by specified percentages. Reductions of 10 to 20 percent have been considered by some to be within reach in the decades immediately ahead; decreases of 50 percent represent goals which may be attained only by future generations.

The cardiovascular-renal diseases, because of the magnitude of their death rates, are the greatest potential source for increases in the expectation of life at the older ages. Even a 10 percent reduction in mortality from these conditions would add about two thirds of a year of life to people in their 60's. If 20 per cent of these deaths could be eliminated, the gains would amount to about 1-1/3 years. In the latter case, the expectation of life for a white male at age 60 would increase from 15.7 to 17.1 years; for a white female the figure would rise from 19.2 to 20.6 years.

The cardiovascular-renal diseases include a large number of conditions of specific and of unknown origin. Several of the components, such as heart diseases of rheumatic and infectious origin, vascular lesions affecting the central nervous system, general arteriosclerosis, and nephritis have recorded decreases in mortality for a number of years, and some further reductions may be expected. It is also not unreasonable to expect that some progress may be made in the prevention and treatment of coronary artery disease; the increase in the mortality from this disease has been the major factor in the recent trends for the cardiovascular-renal diseases as a whole.

Malignant neoplasms rank second as a cause of death at the older ages. Nevertheless, even a 20 percent reduction in the mortality from this cause would add less than one third of a year to the expectation of life at age 60; a 50 percent reduction, however, would add 0.8 years at this age and at least 0.5 years at age 70. Marked reductions would depend upon the development of more effective means than are now available for the prevention and treatment of malignancies. This is particularly true with regard to respiratory cancer among males, the recorded mortality from which has greatly increased in recent years.

Future reductions in mortality from any of the other causes could have only a minor effect on longevity after age 60. Thus, even with a 50 percent decrease in accident fatalities among older people, the expectation of life at age 60 would be increased by only 0.1 year for white men and 0.2 years for the women. A gain of only a small fraction of a year of life would result from a similar reduction in mortality from pneumonia and influenza, diabetes mellitus, tuberculosis, cirrhosis of the liver, or ulcers. It is significant, however, that a 50 percent reduction in mortality from all causes other than the cardiovascular-renal diseases and malignancies—which is within the realm of possibility—would effect a gain in longevity greater than that from a like reduction in the death rate from malignant neoplasms. For men, moreover, such gain would be equivalent to the total improvement in longevity actually recorded between 1929-31 and 1958.

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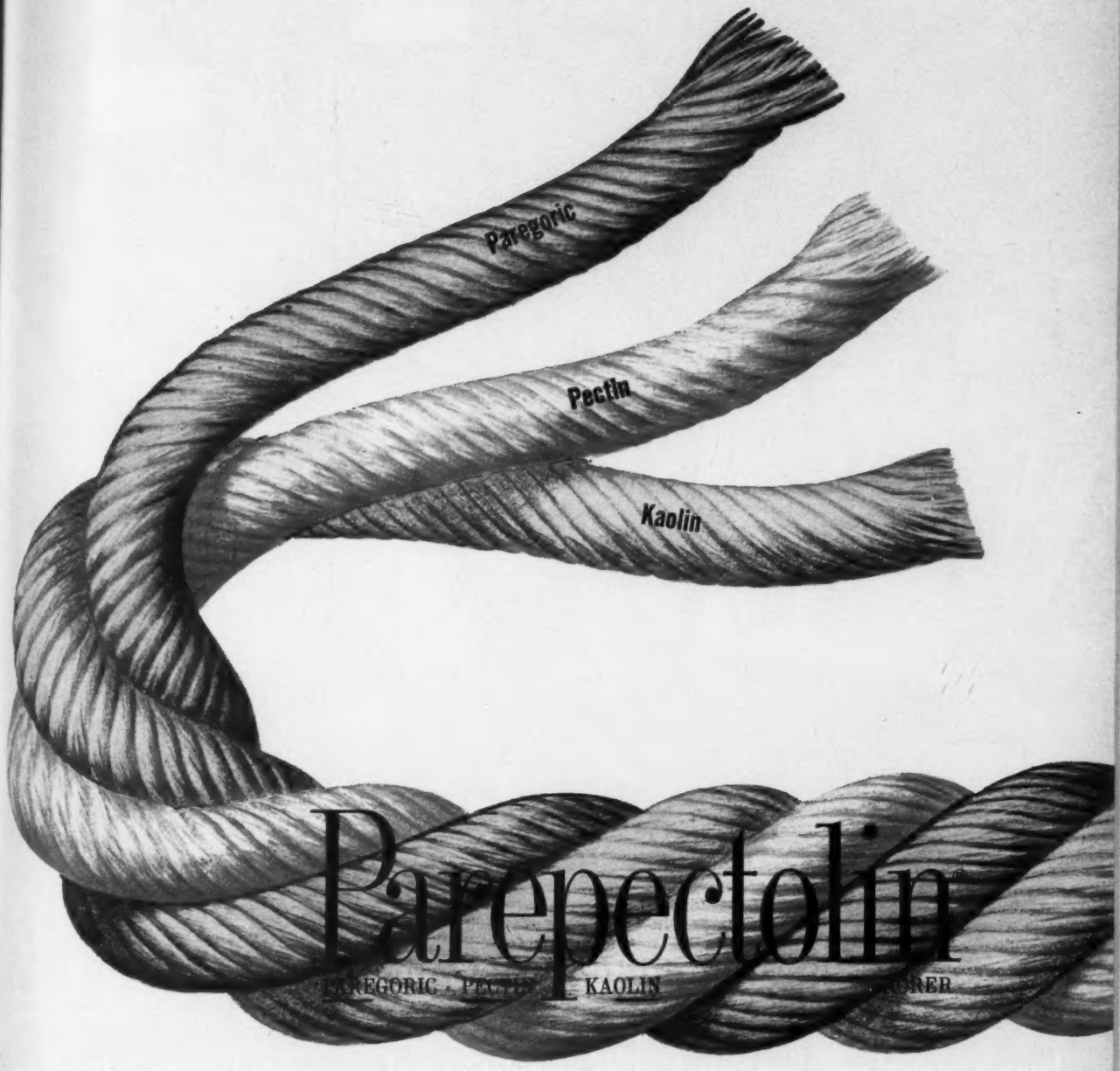

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References: 1. Spielman, A. D.: *Michigan Acad. Gen. Pract. Symposium*, Detroit, 1959. 2. Alfaro, R. D.; Gracanin, V. and Schlueter, E.: *J. Lancet (in press).* 3. Huels, G.: *Michigan Acad. Gen. Pract. Symposium*, Detroit, 1959.

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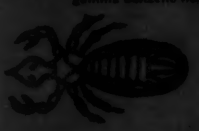

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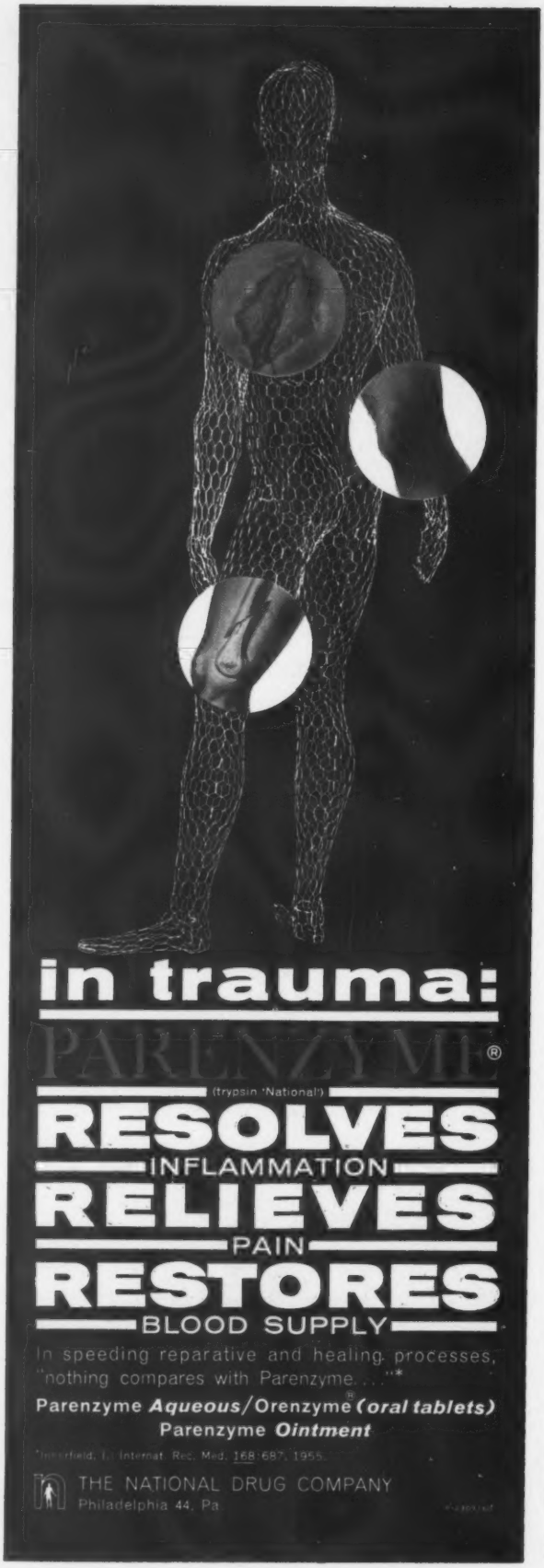

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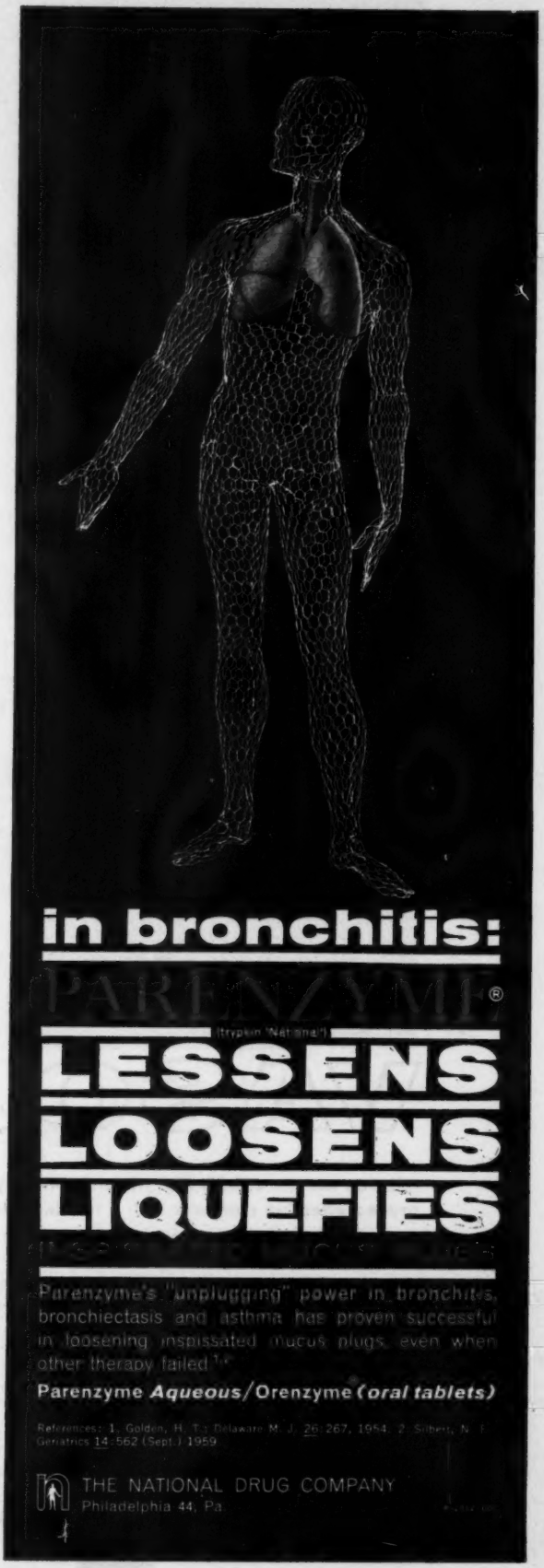
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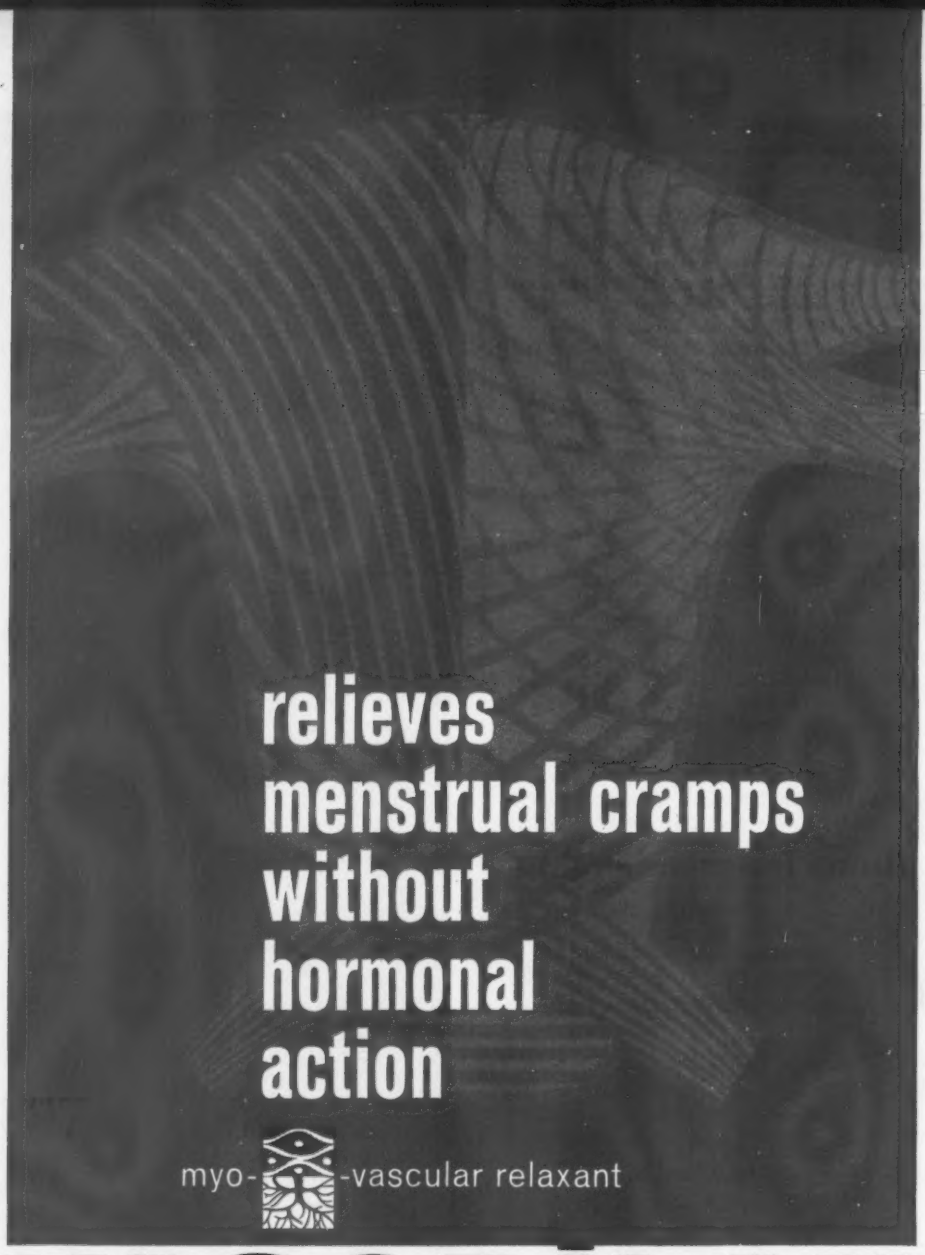

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Isoxsuprine hydrochloride, Mead Johnson

relieves uterine spasm and hypermotility by *direct* relaxant action on uterine muscle*
proved effective clinically with a low incidence of side effects*

dosage: For menstrual cramps, give 10 or 20 mg. (1 or 2 tablets) three or four times daily 24 to 72 hours prior to expected onset of menstruation. Continue until pain has been averted.

side effects: Few side effects occur when given in recommended oral doses. Occasional palpitation and dizziness can usually be controlled by dosage adjustment. Single intramuscular doses of 10 mg. or more may result in hypotension or tachycardia.

contraindications: There are no known contraindications to oral administration of VASODILAN in recommended doses.

cautions: VASODILAN should not be given immediately postpartum or in the presence of arterial bleeding. Parenteral administration is not recommended in the presence of hypotension or tachycardia. Intravenous administration is *not* recommended because of the increased likelihood of side effects.

supplied: 10 mg. tablets, bottles of 100; 2 cc. ampuls (5 mg./cc.) for *intramuscular* use, boxes of 6.

*Voulgaris, D. M.: Obst. & Gynec. *15*:220-222 (Feb.) 1960.

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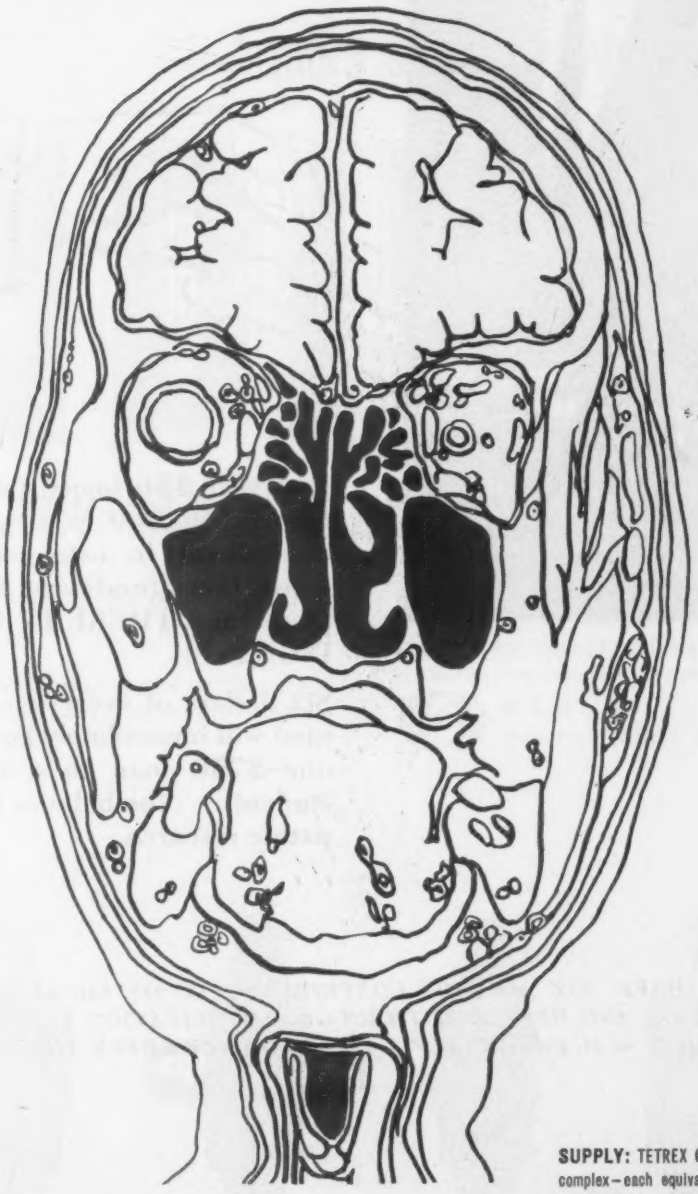

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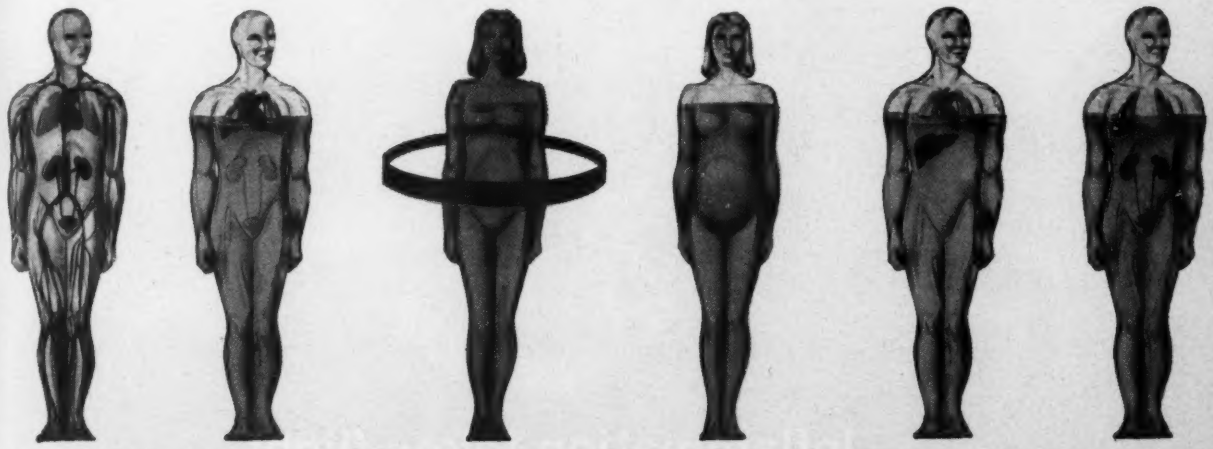

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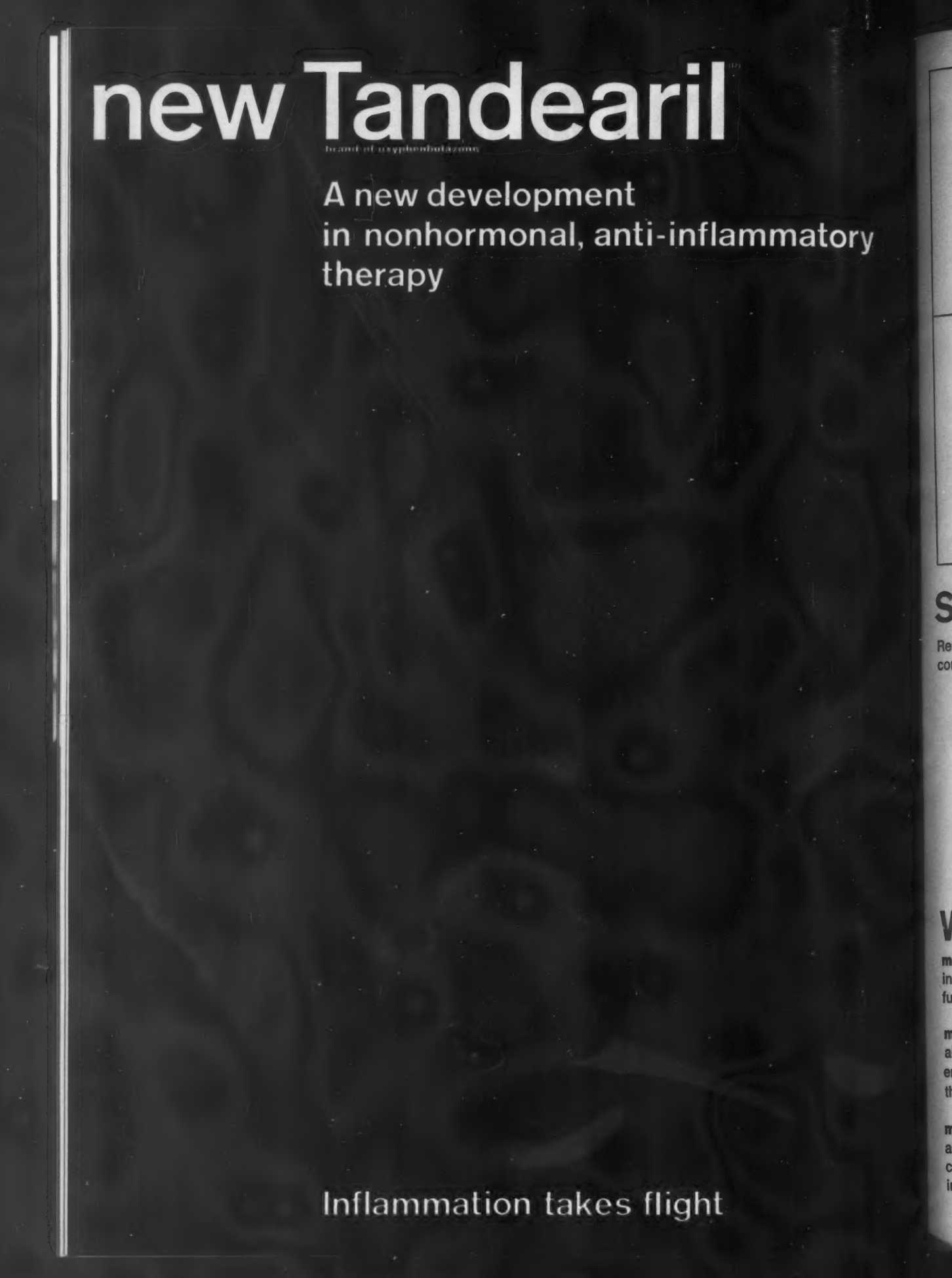
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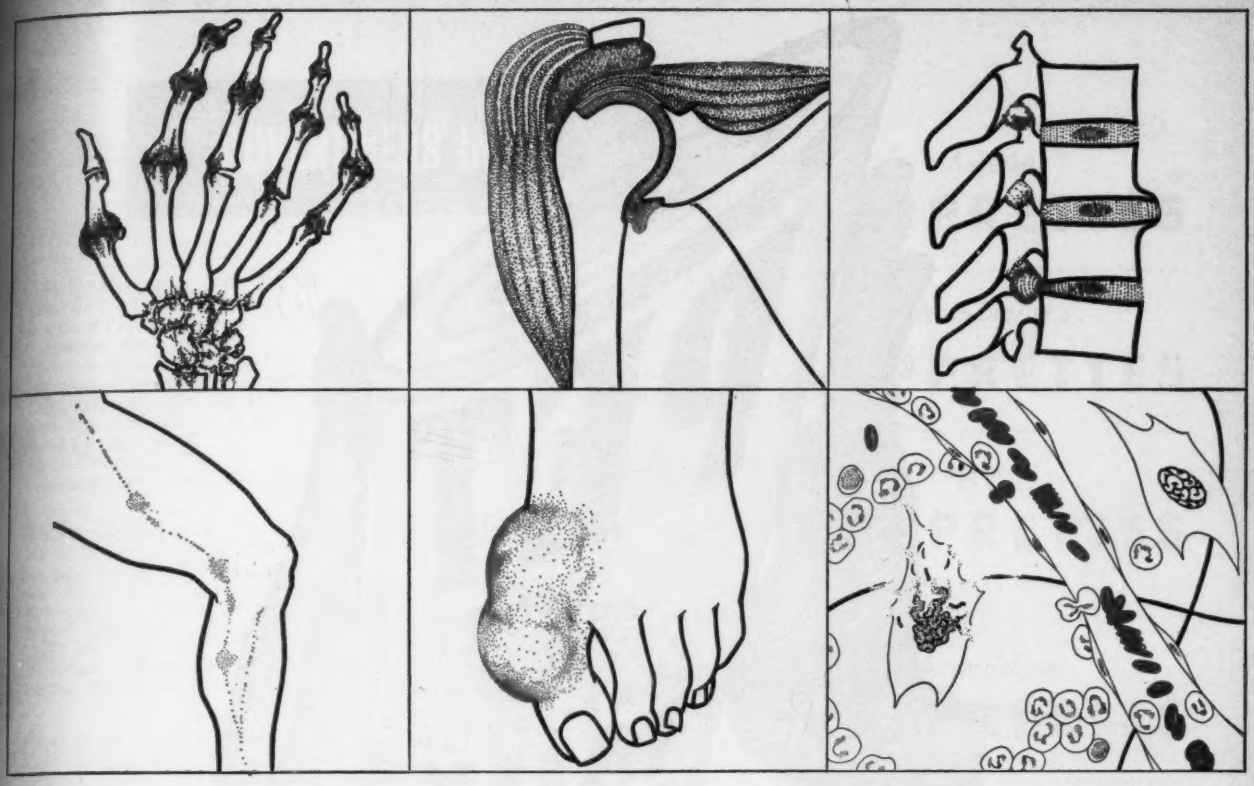

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References:

1. Graham, W.: Canad. M.A.J. 82:1005, 1960. 2. Vaughn, P. P., Howell, D. S., and Kiem, I. M.: Arth. and Rheumat. 2:212, 1959. 3. O'Reilly, T. J.: J. Irish M. A. 46:106, 1960. 4. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. 98:31, 1959. 5. Brodie, B. B., et al., in Contemporary Rheumatology 1956, p. 600. 6. Stein, I. D.: Ann. N.Y. Acad. Sc. 86:307, 1960. 7. Barczyk, W., and Röth, G.: Praxis 49:589, 1960. 8. Miller, J. M., et al.: Antibiotic Med. and Clin. Therap. 7:109, 1960. 9. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. 97:429, 1959. 10. Summary of individual case histories submitted to Geigy. 11. Domenjoz, R.: Ann. N. Y. Acad. Sc. 86:263, 1960. 12. Smyth, S. J.,: Ann. N. Y. Acad. Sc. 86:292, 1960.

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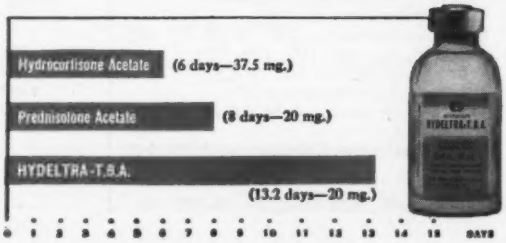
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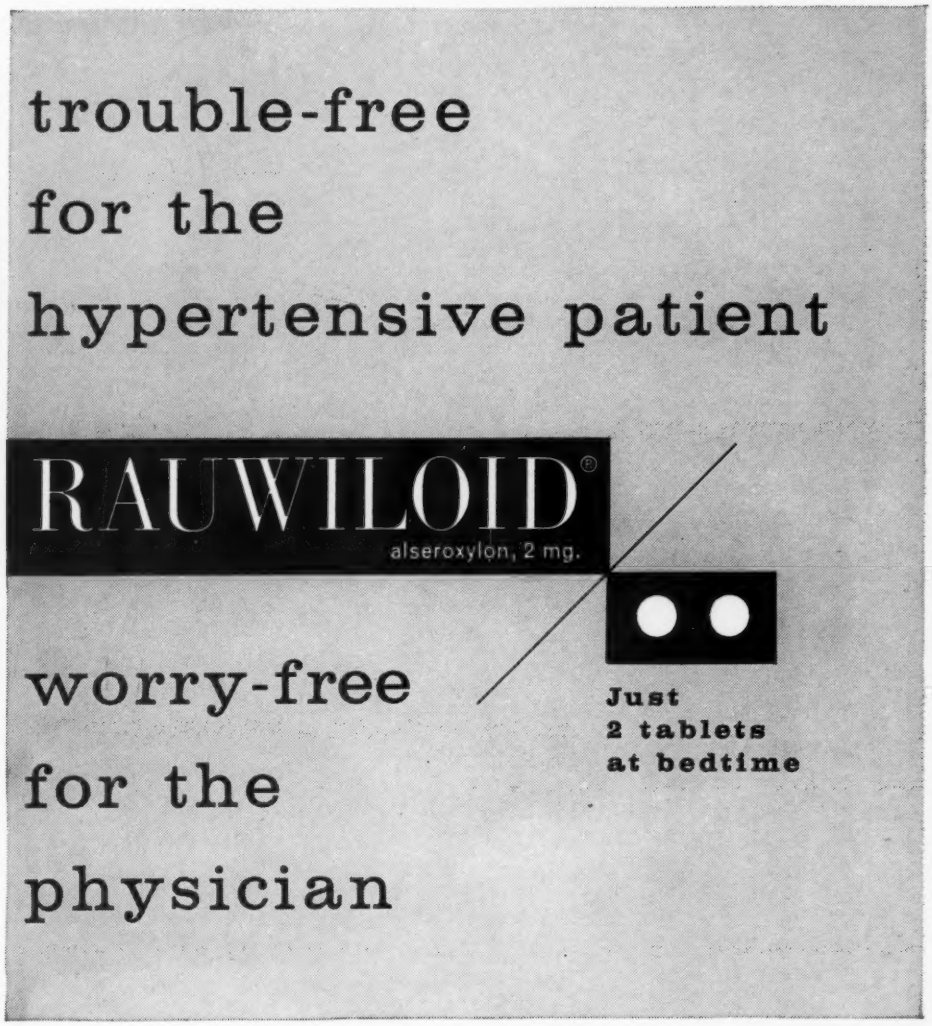

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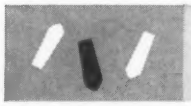

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